UNIVERSIDAD AUTONOMA DE MADRID

CEO Compensation, Board of Directors and Corporate Governance in European Companies

by

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A dissertation submitted to the Faculty of Economics and Management of the Autonoma University of Madrid in partial fulfillment of the requirements for the degree of Doctor in Philosophy.

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Madrid, 2012

Abstract

In this Ph.D. thesis we analyze the composition of the board of directors as key corporate governance mechanism in Europe. In the first chapter we present stylized features of firms' corporate governance in the main Western European Economies (the group E-17), comparing economic determinants, governance structures and institutional frameworks among countries, and along the time dimension. We describe the evolution of the European Corporate Sector in the last decade, stressing the importance of the harmonization process that has been going on since the beginning of this century. We also present key academic contributions in the field of corporate governance studies, both worldwide and in Europe. In the second chapter we analyze how the use of committees improves board efficiency and how it contributes to increase firm value. In the third chapter we analyze how European firms use board independence and CEO compensation as alternative corporate governance mechanisms. In our study, we find that firms that combine independent advising committees and independent boards are those with higher firm value. We also find a positive relation between board independence and the use of CEO equity linked compensation. Overall in our study we show that although board independence alone is not statistically related to firm value, the use of independent board of directors combined with additional instruments (such as advising committees and equity linked compensation) is associated with higher firm valuation in Europe.

Acknowledgements

This thesis work has benefited from the generous help of many people. Some of them have contributed with their time and expertise to help me improve the contents of the thesis. Others have helped me with the household chores so that I could concentrate on writing. Many have given the professional advice, encouragement and motivation that are some much needed when doing research.

First, I want to express my gratitude to my thesis supervisors, Pablo de Andrés Alonso and Juan Antonio Rodríguez Sanz. I am grateful to Pablo de Andrés for taking me as Ph.D. student, for organizing my stays in Spain and for providing me with data and funding. More importantly, I am thankful for all the insightful discussions, the encouragement, the motivation and the striving for excellence from which my work has clearly benefited. I am also thankful to Juan Antonio Rodríguez for his valuable help with the econometric part and for his dedication to correct and improve the contents of the thesis. I am grateful to both of them for their patience, flexibility and understanding.

During my years at the Hanken School of Economics in Helsinki I also received the generous input from many researchers. I am especially grateful to Prof. Almas Heshmati, with whom I wrote my first research paper; to Prof. Tom Berglund, who was the supervisor of my licentiate thesis and to Prof. Pekka Ilmakunnas, from whom I received very valuable feedback to elaborate my licentiate thesis. I am also thankful to Edvard Johansson, who helped me a lot in the initial stages of my research, and to Oana Velcu for her intelligent comments and remarks.

This thesis would have never been accomplished without the help and support of my friends and family. I want to thank Berta and Joaquín, Alicia

and Alberto for their love and encouragement. I am also very thankful to my sons, Alberto and Alejandro, for their supply of energy, happiness and affection. Finally, I am most grateful to my husband, Tomas, to whom I dedicate this work, for helping me to carry out this and many other projects. I have shared with him the struggles of writing this thesis and I hope that today he shares with me the happiness and joy of having it completed.

Laura Arranz-Aperte

Helsinki, 2012

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To remain competitive in a changing world, corporations must innovate and adapt their corporate governance practices so that they can meet new demands and grasp new opportunities".

OECD Principles of Corporate Governance, 2004

INTRODUCCIÓN

(En cumplimiento con la normativa de doctorado de la Universidad Autónoma de Madrid relativa a las tesis presentadas en otra lengua oficial, la introducción se redacta en español y se concibe como un resumen de la tesis doctoral)

El consejo de administración es, sin duda, el órgano de gobierno corporativo más importante al alcance de las empresas cotizadas. Como tal, ha recibido la atención de empresarios, reguladores, académicos, y del público en general. En la última década hemos asistido a una corriente reguladora en ambos lados del Atlántico que promueve la formación de consejos de administración independientes del poder ejecutivo, como elemento generador de valor empresarial. Así, la ley de Sarbanex-Oxley, promulgada en el año 2002 en EE.UU. para mejorar el gobierno corporativo de empresas cotizadas americanas, obliga a contar con una mayoría de consejeros independientes en los consejos de administración. Los códigos de buen gobierno de las principales economías europeas (que no son de obligado cumplimiento, pero sí son seguidos normalmente por las empresas) abogan también por la creación de consejos de administración independientes del poder ejecutivo. Estas recomendaciones en Europa surgen como respuesta al esfuerzo de la Comisión Europea para modernizar las legislación existente y promover el buen gobierno corporativo en la Unión, lo que desemboca en la redacción en el año 2003 del "Informe para la modernización del derecho de sociedades y la mejora del gobierno corporativo", y la Directiva de modernización (Modernization Directive 2003/51/EC). En este informe, la Comisión Europea aboga por el incremento de la transparencia informativa en cuanto a informes anuales, balances contables, retribución a directivos y miembros del consejo de administración, convergencia de los códigos de gobierno nacionales, y, lo que es más importante para nuestro estudio, aboga por la mejora del desempeño de la función de los consejeros no ejecutivos y supervisores, así como el establecimiento de unos estándares mínimos en la creación y grado de independencia de los comités de nominación, remuneración y auditoría.

En respuesta a este aparente consenso en la necesidad de independencia de los consejos de administración, cabe hacerse las siguientes preguntas: ¿Existe realmente una relación de causalidad directa entre el grado de independencia del consejo de administración y el valor de la empresa? ¿Cuáles son los argumentos económicos de dicha relación de causalidad? ¿Es esta relación lineal y monotónica? Si es así, ¿por qué no están los consejos de administración formados únicamente por consejeros independientes? ¿Cual es el papel de los consejeros no independientes, y cómo afectan al valor de la empresa?

Estas cuestiones han recibido recientemente una renovada atención por parte de investigadores y académicos, que han analizado dos aspectos fundamentales del consejo de administración: el desempeño de las funciones de control y asesoría del consejo, y la relación entre la composición del consejo y el valor de la empresa. En última instancia, estos estudios tienen como objetivo entender cómo las empresas diseñan sus consejos de administración para llevar a cabo dichas labores de control del equipo directivo y apoyo en el diseño de la estrategia empresarial, de forma que contribuyan a la maximización de la renta empresarial.

Entre las principales conclusiones de trabajos recientes se detecta una ausencia de relación consistente entre diferentes medidas del valor de la empresa y el nivel de independencia del consejo de administración (Adams y Mehran, 2012, y Wintoki, Linck y Netter, 2012). Esta carencia de relación estable puede ser atribuible a diversas causas entre las que cabe mencionar la necesidad de transmisión de información que llevan a cabo los consejeros no independientes, los problemas de endogeneidad inherentes al proceso de formación del consejo (que enmascaran en las regresiones la relación positiva), los costes para los consejeros no ejecutivos de adquirir la información

necesaria para ejercer el control y el asesoramiento al equipo directivo y el papel que desempeña el consejero delegado, entre otros.

Nuestra investigación tiene como objetivo contribuir a esta rama de la literatura (que analiza la eficiencia del consejo de administración de las empresas cotizadas) añadiendo dos elementos diferenciales que pueden ser determinantes en la relación entre independencia del consejo de administración y valor de la empresa, y que pueden ayudarnos a entender mejor esta relación. Estos dos elementos son la estructuración interna del consejo de administración en comités, y la estructura de la retribución al consejero delegado, como instrumento alternativo de gobierno corporativo. Tras un breve recorrido por las características del gobierno corporativo en Europa (capítulo 1), nuestra investigación intenta dar respuesta a dos preguntas de investigación (capítulos 2 y 3). En la primera de ellas, capítulo 2, introducimos el trabajo del consejo en comités, y analizamos si, al introducir información acerca de los comités en un modelo de valor, podemos predecir mejor el impacto de la independencia del consejo de administración sobre el valor de la empresa. Adicionalmente, también analizamos cómo las empresas adecúan la independencia de sus consejos de administración y su estructura de trabajo en comités a sus requerimientos de control del ejecutivo y participación en el diseño de la estrategia empresarial. Dependiendo de estas necesidades relativas de supervisión y asesoría las empresas no sólo deciden la composición agregada del consejo y su grado de independencia, sino también, y de forma interrelacionada, el número e independencia de sus comités de trabajo. Estudiar la composición conjunta de comités y consejos puede contribuir a encontrar regularidades empíricas que mejoren nuestro entendimiento del funcionamiento interno de los consejos de administración y su relación con el valor de la empresa. Por ejemplo, analizamos si los consejos muy

independientes tienen una estructura interna que cuente con un gran número de comités (o con comités más o menos independientes), de forma que sea a nivel de comité (en lugar de a nivel de consejo) donde la transmisión de información entre miembros del poder ejecutivo y consejeros externos se realice de forma más eficiente.

Para entender mejor el funcionamiento interno de los consejos de administración de las empresas cotizadas europeas, analizamos en detalle las siguientes cuestiones: (1) ¿Ayuda a entender mejor la relación entre el nivel de independencia del consejo de administración y el valor de la empresa la información acerca los comités de trabajo en que está organizado dicho consejo? (2) ¿Adecúan las empresas europeas la estructura de sus comités (el número, la independencia y la naturaleza asesora o de control de los mismos) a las necesidades relativas de asesoramiento y control de las empresas?

Para responder a la primera pregunta comparamos los resultados de analizar un modelo de creación de valor de referencia, donde el valor de la empresa depende de la independencia del consejo de administración como elemento más relevante, y de otros elementos de control (condiciones específicas de la empresa, de su estructura de gobierno y de los mercados en los que opera), con un modelo aumentado, donde incluimos información acerca de las características de los comités y acerca del diseño conjunto de comités e independencia global de la empresa. La comparación de la magnitud y la significación estadística de los coeficientes resultantes, nos permitirá realizar inferencias acerca de la relación entre comités y valor, independencia del consejo y valor, y acerca de los determinantes principales del uso intensivo de comités.

Para responder a la segunda pregunta introducimos en el análisis factores que afecten a los requerimientos de asesoría y control por parte del consejo de administración, e incluimos en el análisis técnicas econométricas que corrijan el posible sesgo de no aleatoriedad en el diseño de los comités en la empresa. También estudiamos el impacto de la independencia del consejo en el valor de la empresa, de forma diferenciada, para empresas en sectores con un gran potencial de crecimiento, frente a aquellas en sectores más tradicionales, o aquellas empresas con un mayor tamaño que la media europea, frente a empresas de menor tamaño.

La segunda pregunta de investigación a la que pretendemos dar respuesta en la presente tesis doctoral, recogida en el capítulo 3, analiza la composición del consejo de administración y su relación con la retribución al consejero delegado, considerada ésta última como un instrumento alternativo de gobierno corporativo. En concreto, analizamos si las empresas emplean la composición del consejo de administración y la retribución al consejero delegado como instrumentos de gobierno corporativo complementarios y cuál es la relación entre las funciones que desempeña el consejo de administración (supervisión y asesoría), y la estructura de pago al consejero delegado.

La primera cuestión se refiere a si las empresas utilizan la independencia del consejo de administración y el pago de acciones y opciones sobre acciones al consejero delegado como elementos de gobierno corporativo complementarios o sustitutivos. En este caso, contrastamos dos modelos económicos clásicos: los modelos económicos de agencia tradicionales[1] que postulan una relación de sustitución entre ambos instrumentos, y los modelos de captura o atrincheramiento[2] que abogan por el uso de ambos instrumentos

[1] Como los modelos de Holmstrom (1979) y Holmstrom y Milgrom (1991)
[2] Principalmente Bebchuk y Fried (2004) y Bebchuk, Fried y Walker (2002)

de forma complementaria. Según los modelos de agencia clásicos una estructura de pago muy ligada a resultados permite alinear los intereses de accionistas y administradores de la empresa, minimizando la necesidad de supervisión por parte del consejo de administración. Por el contrario, los modelos de captura sugieren que, sin un sistema de supervisión adecuado, los consejeros delegados intentarán extraer rentas de las empresas que dirigen, eligiendo (para ellos y su equipo directivo) una retribución más alta y menos ligada a los resultados de la empresa de la que en otro caso fijaría el mercado.

Con nuestra segunda pregunta nos cuestionamos si la concesión o no de incentivos (opciones sobre acciones y acciones de la empresa) al consejero delegado está ligada de forma diferente a las distintas funciones del consejo de administración. Para analizar esta segunda pregunta desglosamos nuestro análisis inicial y estudiamos la relación entre el pago de incentivos y las variables que miden la necesidad de supervisión y de asesoría del consejo de administración. Si estas variables son relevantes, podemos afirmar que tanto la relación entre la retribución al consejero delegado como la composición del consejo de administración vendrán determinadas por la importancia relativa de las funciones de asesoría y supervisión en dicho consejo.

Para la elaboración de la investigación empírica hemos compilado una base de datos que contiene las principales empresas cotizadas de Europa Occidental. Esta base de datos contiene información detallada de las características de gobierno corporativo, proveniente del proveedor de datos BoardEx, e información contable y de mercado de las empresas obtenida de la base de datos Thomson.

Para el capítulo 2, en el que usamos información sobre comités, consejo de administración, y valor de la empresa, hemos creado una muestra

que contiene 2029 empresas europeas, y 11 517 observaciones. Se trata de empresas cotizadas suficientemente representativas de catorce economías de Europa Occidental, para las que se contempla un periodo de estudio comprendido entre los años 1999 y 2009. Toda la información acerca de los comités, consejo y remuneración ha sido obtenida trabajando con la base de datos original de BoardEx, mientras que los datos económico-financieros y de mercado de las empresas de nuestra muestra han sido obtenidos de la base de datos Thomson.

Para llevar a buen término el segundo objetivo de investigación manejamos información detallada de la remuneración al consejero delegado, construyendo una segunda muestra que contiene en total 12 362 observaciones -correspondientes a 2 668 empresas- para el periodo 1999-2007. Estas empresas conforman una muestra representativa de quince países europeos, aunque del total de 12 362 observaciones de nuestra muestra el 62.7% (7 751 observaciones) corresponden a empresas con domicilio fiscal en el Reino Unido, y el 37.3% restante (4 611 observaciones) corresponden a empresas de la Europa Continental. Este sesgo en la representación por países se debe al contenido de la base de datos BoardEx, donde la información sobre empresas en el Reino Unido es claramente predominante.

Los resultados de nuestra investigación se pueden resumir en los siguientes puntos:

(1) Encontramos una relación estadística positiva y significativa entre el número y la independencia de los comités y el valor de la empresa. También encontramos una relación positiva entre el número y la independencia de comités que se dedican a labores de asesoría y el valor de la empresa, siendo esta relación no significativa en el caso de comités de control.

Además, usando técnicas econométricas que corrigen el sesgo que pudiera derivarse de la no aleatoriedad en la creación de este tipo de comités, nuestros datos muestran que, al introducir información sobre comités asesores en un modelo de valor de la empresa, la relación entre la independencia del consejo y el valor de la empresa se torna en positiva y significativa.

(2) En general, no encontramos en nuestros datos evidencia empírica de una relación estadística significativa entre el nivel de independencia del consejo de administración (definido como la proporción de consejeros no ejecutivos) y el valor de la empresa (medido como el cociente entre el valor de mercado de la empresa y el valor contable). Esta falta de evidencia no significa necesariamente que la independencia del consejo no tenga impacto en el valor de la empresa, sino que puede deberse a que la composición idónea del consejo dependa de factores internos (producción, otros elementos de gobierno corporativo), y externos (factores institucionales y de mercado) que no siempre es posible especificar en los modelos. De esta manera, mientras para cierto tipo de empresas incrementar la independencia del consejo puede conllevar incrementos de valor, para otras puede tener el efecto contrario especialmente si el nivel de independencia de sus consejos ya está situado en su nivel óptimo. Si las empresas han optimizado los niveles de independencia en sus consejos, la relación existente puede no aparecer de modo agregado en el análisis. Este resultado no difiere de otros estudios recientes publicados con datos de EE.UU., y en los que en términos generales se sugiere que la relación entre la independencia del consejo y el valor de la empresa no es estadísticamente significativa.

(3) Encontramos evidencia de una relación positiva entre variables que miden la necesidad de supervisión y la probabilidad de que el

consejero delegado reciba acciones u opciones sobre acciones como parte de su remuneración.

(4) Nuestro estudio revela una relación de complementariedad entre la independencia del consejo de administración y el pago de incentivos (acciones y opciones sobre acciones) al consejero delegado de la misma. Esto significa que las principales empresas cotizadas europeas combinan mayores niveles de independencia de sus consejos de administración con una mayor proporción de incentivos en la retribución anual al consejero delegado. Esta relación de complementariedad es más significativa en empresas con consejos más numerosos, con estructuras de propiedad más concentradas y con mayores rendimientos.

La aportación del consejo de administración al valor de la empresa es difícilmente cuantificable, puesto que depende de elementos cualitativos, como el capital humano de los consejeros, la transmisión de información entre consejeros externos y miembros del equipo ejecutivo, la confianza entre los miembros del consejo, y entre éstos y el consejero delegado, etc. Es por ello de gran relevancia, para el diseño de modelos de consejos de administración eficientes, encontrar regularidades empíricas que nos ayuden a entender los mecanismos internos de funcionamiento de dichos consejos, y creemos que, el estudio sobre cómo las empresas combinan la independencia del consejo con otros elementos de gobierno corporativo a su alcance mejora nuestro conocimiento acerca del funcionamiento interno de los consejos, y facilita la comprensión de su aportación a la creación de valor en la empresa.

Además de contribuir al análisis del funcionamiento de los consejos de administración, otra de las aportaciones relevantes en la tesis doctoral consiste en el uso de datos europeos. En general, los estudios empíricos acerca de elementos de gobierno corporativo, como los relativos a los consejos de

administración y al pago a ejecutivos, se han concentrado en el sector corporativo americano, debido sin duda a la mayor transparencia informativa en lo que a datos sobre gobierno corporativo se refiere, así como a la mayor tradición investigadora en este campo. Los estudios existentes usando datos europeos son muy escasos, y por norma general suelen estar centrados en un único país. En nuestro estudio, las principales economías de Europa Occidental están representadas. De esta manera, al abarcar varios países, podemos sacar conclusiones que no estén condicionadas por factores institucionales o de mercado que afecten a un país en concreto. El análisis de datos europeos es también importante en la actualidad, dado que en la última década hemos sido testigos de la mayor actualización y homogeneización que se haya dado jamás entre los códigos de buen gobierno de los diferentes países de Europa occidental. Usar una muestra representativa de los países europeos en nuestro análisis permite conocer mejor el sistema corporativo europeo, estudiar cómo se han adaptado las empresas a los importantes cambios institucionales, económicos, y empresariales ocurridos en los últimos diez años, y analizar si estos cambios han propiciado la mejora de los sistemas de gobierno corporativo para los que fueron diseñados.

EL GOBIERNO CORPORATIVO EN EUROPA

Una de las características más relevantes del gobierno corporativo en Europa es la coexistencia, en un mismo espacio económico (el mercado único europeo), de marcos institucionales tan diversos como el anglosajón, que tiene su máximo exponente en el Reino Unido; el escandinavo, propio de los países nórdicos; el gérmanico, prevalente en Austria y Alemania; y el francés, propio de países como España, Francia, Países Bajos, Luxemburgo, etc. En todos ellos,

el marco regulatorio de gobierno corporativo se basa en una combinación de legislación, de obligado cumplimiento, y *soft law*, recomendaciones voluntarias, que si bien no son de obligado cumplimiento, sí son seguidas de forma mayoritaria por las empresas europeas.

Aunque hemos sido testigos en la última década del mayor esfuerzo de modernización y armonización de las diversas legislaciones y códigos referentes al gobierno corporativo de la empresas en Europa, la realidad económica sugiere que existe una gran diversidad, tanto entre países como dentro de los países entre empresas de diversos sectores económicos[3]. Estas disparidades tienen su origen en diferentes realidades económicas, ordenamientos jurídicos dispares, y diversas tradiciones legales y culturales que han de ser tenidas en cuenta al abordar el estudio del gobierno corporativo en Europa.

De esta forma, no existe un código de buen gobierno unificado que sirva de referencia para todos los países de la Unión Europea, sino que cada país ha publicado su propio Código de Buen Gobierno, basado en el principio internacionalmente conocido como ”cumplir o explicar”, donde las empresas pueden no seguir las recomendaciones del código pero han de revelar los motivos que justifican dicha desviación. En el año 2002, la Comisión Europea publicó un informe ”A Comparative Study of Corporate Governance Codes Relevant to the European Union and its Member States” donde se analizaba el estado de la convergencia de los diferentes códigos. De este estudio se concluye que no es necesario desarrollar un código pan-europeo, ya que los rasgos convergentes de los diferentes códigos son mucho más relevantes que los rasgos divergentes. Este informe corroboraba el hecho de que los códigos, junto con las tendencias de mercado, actúan como fuerza motor de la

[3] Esta gran diversidad se pone de manifiesto en nuestro estudio de los principales rasgos que caracterizan a las empresas cotizadas en las distintas economías de Europa Occidental, descripción llevada a cabo en la sección cuarta del primer capítulo de esta tesis

convergencia real. De este informe también se concluye que las diferencias más importantes en las prácticas de gobierno corporativo entre empresas europeas se deben a diferencias en legislación mercantil y regulación bursátil, más que a diferencias en las recomendaciones de los diferentes códigos de buen gobierno.

Es por ello que la Comisión Europea puso en marcha de forma simultánea una iniciativa para desarrollar un moderno marco regulatorio en el ámbito de legislación comercial dentro de la Unión Europea. Como resultado de esta iniciativa se publicó el informe conocido como Winter Report, centrado en la mejora de la eficiencia y la competitividad del tejido empresarial europeo. Como consecuencia del Informe Winter (llamado así en referencia al autor del mismo, Jaap Winter), la Directiva de Modernización (Modernization Directive, 2003/51/EC), abogó por una mejora del gobierno corporativo de las empresas que incluyera, entre otros aspectos, una mayor transparencia informativa y un refuerzo del rol de los consejeros independientes y supervisores.

Desde entonces, la Comisión ha adoptado una serie de recomendaciones y regulaciones (directivas) dirigidas a mejora el gobierno corporativo de las empresas, y a lograr una armonización de facto del marco institucional de gobierno corporativo en el ámbito del mercado único europeo. En el primer capítulo de esta tesis presentamos de forma detallada los principales rasgos del sector corporativo europeo, los avances en el proceso de armonización de la última década, y el estado actual de la cuestión con una detallada transcripción de los últimos avances en códigos y legislación vigentes en cada uno de los países de nuestro estudio.

Hoy en día existe una clara conciencia en Europa acerca de la importancia de mejorar los estándares de gobierno corporativo como

instrumento eficaz para lograr una mayor convergencia y crecimiento económico. La Unión Europa prioriza así la armonización de códigos de buen gobierno y la legislación mercantil para la mejora del gobierno corporativo en Europa. Dos recientes informes ”The Green Paper on the EU Corporate Governance Framework” y ”The Report on the Reflection Group on the Future of EU Company Law” publicados en el año 2011 en nombre de la Comisión Europea ponen de manifiesto dicha importancia. El primero de estos informes destaca la importancia del consejo de administración (y la figura del presidente de dicho consejo) en el diseño de las estrategias empresariales y el crecimiento económico de las empresas cotizadas. En este informe la Comisión Europea reitera su compromiso por el desarrollo de un mercado único fuerte y consolidado, que cuente con el gobierno corporativo y la responsabilidad social corporativa como elementos básicos para afianzar la confianza de los ciudadanos europeos en el el mercado único europeo.

El informe del grupo de reflexión sobre el futuro de la legislación mercantil (*company law*) de la Unión Europea, presenta los principales problemas que existen en el marco legislativo actual, y sugiere iniciativas que aporten elementos diferenciales al debate actual acerca de al armonización legislativa a nivel europeo. Este informe comparte el punto de vista de que la armonización dentro de la Unión Europea ha de llevarse a cabo dentro de una estrategia que tenga en cuenta las diferentes trayectorias históricas, culturales, legales y económicas de los diversos estados[4] aboga por una armonización que enfatice la tendencia hacia una mayor flexibilidad y libertad de elección del modelo empresarial, de gobierno corporativo, y de distribución de poder dentro de cada empresa, más allá de imposiciones legales de convergencia, que pudieran ser incluso contraproducentes.

[4] El modelo llamado *path dependence convergence*, descrito en Hopt y Leyens (2005)

Es por ello que la Unión Europea, con ánimo de enfatizar el proceso de armonización de la legislación y códigos del gobierno corporativo europeo, ha optado por llevar a cabo dicho proceso de armonización permitiendo una mayor flexibilidad entre los diferentes marcos institucionales, y otorgando a las empresas una mayor libertad a la hora de elegir su diseño de gobierno corporativo. Como resultado (y como mostramos en la sección cuatro del primer capítulo de esta tesis), podemos comprobar cómo empresas con diferentes mecanismos internos de control y diferentes realidades económicas coexisten y compiten en un mismo mercado único europeo (incluso dentro de cada país). Esta gran variedad de modelos de gobierno corporativo nos permite analizar no sólo la relación entre los diferentes instrumentos de gobierno corporativo de las empresas y el valor de mercado, sino que permite además estudiar simultáneamente cuáles son los rasgos empresariales determinantes en la elección de un determinado modelo de gobierno corporativo frente a otro dentro de cada empresa.

HIPÓTESIS CONTRASTABLES Y LITERATURA RELACIONADA

La presente tesis doctoral se apoya en un eje central que versa sobre el análisis de la composición del consejo de administración como generador de eficiencia y beneficio empresarial, eje que posteriormente se articula en dos cuestiones principales o preguntas de investigación. Se postula que para entender mejor la relación entre la independencia del consejo y el valor de la empresa resulta de sumo interés introducir elementos diferenciales que puedan afectar de forma determinante a la influencia de los consejos de

administración sobre la toma de decisiones empresariales, y en última instancia, sobre el proceso de generación de valor.

Estos elementos diferenciales son el uso de comités para la mejor transferencia de información entre consejeros internos y externos, y el uso de incentivos en la remuneración de los consejeros delegados para facilitar la alineación de intereses entre propietarios y ejecutivos.

En conjunto, nuestras dos propuestas de investigación contribuyen a ampliar nuestro conocimiento del diseño de la estructura del consejo de administración a partir de la independencia del consejo definida como la proporción de consejeros no ejecutivos. Partiendo de la relación entre la independencia del consejo y el valor de la empresa, ampliamos nuestra visión observando como la independencia del consejo interactúa con otros elementos de gobierno corporativo, como el pago de incentivos salariales, y analizando la microestructura y el funcionamiento interno de los consejos en comités de trabajo. Resumimos a continuación cada una de las propuestas de investigación. Un mayor detalle sobre las mismas puede encontrarse en los capítulos correspondientes.

La independencia del consejo como elemento generador de valor empresarial

Existe una amplia corriente dentro de la literatura sobre gobierno corporativo que en sus primeras etapas ha centrado su ámbito de estudio en la función de supervisión de los consejos de administración (Hermalin y Weisbach, 1998). La tendencia habitual en dichos estudios consiste en estudiar cómo diversas características del consejo, o cómo determinadas acciones llevadas a cabo en el mismo, son capaces de influir en el resultado

empresarial[5]. La justificación de tal proceder descansa en la idea de que dichas características reflejan la capacidad de los consejos para disciplinar a los directivos, y en que dichas acciones son el elemento central de la acción supervisora del consejo. Subyace en este planteamiento la solución de los conflictos derivados de la separación entre propietarios y directivos[6].

Entre las propuestas más relevantes de esta corriente de pensamiento destacan, en primer lugar, el reforzamiento del nivel de independencia en el consejo como medio de mejorar la efectividad de determinadas tareas de supervisión (Lipton y Lorsch , 1992) y, por tanto, los resultados empresariales, y, en segundo lugar, la elección de consejos con un número reducido de miembros como medio de potenciar su capacidad para eludir los problemas de coordinación, control y *free-riding*. Estas sugerencias han calado de tal forma que es difícil encontrar un Código de Buenas Prácticas que no incluya la recomendación de reducir el número de consejeros o de aumentar la presencia de independientes, recomendaciones que, sin embargo, no se han visto refrendadas en la contrastación empírica con la obtención de resultados concluyentes (Wintoki et al. 2012).

Ahora bien, aunque la supervisión y control de la actuación de los managers es una de las funciones primordiales del consejo, también tienen encomendadas otras tareas no menos importantes a las que es necesario prestar atención. En este sentido, es parte de la labor del consejo y sus consejeros ayudar, asesorar a los directivos en la marcha del negocio, en la fijación de la estrategia, en el descubrimiento y valoración de oportunidades de inversión, en la incorporación de nuevas líneas de negocio, en las relaciones con otros *stakeholders*, etc. En definitiva, poner a disposición de los directivos

[5] El estado de la cuestión se puede ver en Hermalin y Weisbach (2003)
[6] Ver Adams, Hermalin y Weisbach (2010)

el conocimiento general y específico de que disponen los consejeros. Un buen número de los trabajos que han aparecido en los últimos años destacan la importancia de esta función asesora[7], en ocasiones por encima de la supervisora.

Dentro de lo que podríamos calificar de nueva generación de trabajos sobre gobierno corporativo podemos destacar la cada vez mayor presencia de aportaciones teóricas que tratan de buscar soluciones óptimas al problema de gobierno desde la modelización del comportamiento del consejo (Raheja, 2005; Adams y Ferreira, 2007; Drymiotes, 2007; Hermalin y Weisbach, 2003; Harris y Raviv, 2008). Además, una gran mayoría de trabajos incorporan la función de asesoramiento junto con la de supervisión, analizando las circunstancias en que cada función es prevalente (Coles, Daniel y Naveen 2008; Lasfer, 2006; Adams y Ferreira, 2007; Boone, Field, Karpoff y Raheja, 2007; Drymiotes, 2007; Markarian y Parbonetti, 2007; Cheng, 2008; Link, Netter y Yang, 2008).

Así, Adams y Ferreira (2007) plantean la existencia de un *trade-off* entre las funciones supervisora y asesora del consejo. Si los directivos proporcionan información a los consejeros, el consejo puede asesorar más eficientemente, aunque dicha información también revela al consejo las opciones disponibles y la posibilidad de interferir en el proceso de adopción de decisiones por parte de los directivos de la empresa. Por tal motivo, el consejero delegado puede manifestar cierta reticencia a revelar información si el consejo es un órgano demasiado independiente de la dirección. Los autores plantean, por tanto, un *trade-off* entre independencia del consejo y transmisión de información, de manera que enfatizar sin más la independencia de los consejos puede en ocasiones disminuir el valor de la firma. Se hace

[7] Entre estos trabajos cabe destacar Helland y Sykuta (2004), Adams (2000), Adams y Ferreira (2007) y Ferreira (2010)

patente la necesidad de considerar otros factores tales como los beneficios de control en poder del consejero delegado, o la alineación de preferencias entre éste y el consejo, como parte integrante de un modelo en el que la importancia de las funciones de asesoramiento y supervisión conducirá a un tipo de consejo de administración u otro en la búsqueda de la eficiencia y, por ende, de la creación de valor. La propia Adams (2009) obtiene confirmación de ello en una encuesta realizada sobre consejeros delegados y miembros de consejos de administración en Suecia, donde constata la percepción de los propios protagonistas de que aquellos consejos que más monitorizan pueden no llegar a adquirir el suficiente compromiso como para asesorar con efectividad, así como que los vínculos personales entre consejeros delegados y miembros del consejo permiten vencer el problema de confianza, fomentan el intercambio de información y potencian el valor.

Song y Takor (2006) coinciden en esta misma idea de que es el consejero delegado quien controla la información que pone a disposición de los miembros del consejo, quienes no sólo monitorizan al CEO sino que además, y más importante, evalúan y prestan asesoramiento sobre los proyectos que éste presenta. Teniendo en cuenta la interacción entre el consejero delegado y los consejeros, concluyen que no siempre un consejo fortalecido en independencia es más efectivo en el cumplimiento de sus funciones.

De forma casi contemporánea al trabajo de Adams y Ferreira (2007), aunque desde una vertiente más empírica, tres interesantes trabajos (Boone et al., 2007; Coles et al., 2008 y Link et al., 2008) comparten la idea de que las funciones de supervisión y de asesoramiento son elementos centrales de la acción de los consejos, y que ambas funciones presentan una serie de beneficios y costes que hacen que su desempeño eficiente y, en definitiva, el diseño óptimo del consejo, dependan de ciertas características de la empresa y

del entorno o de la configuración de otros mecanismos de gobierno.

Entre dichos factores destacan, en primer lugar, el alcance y complejidad de las operaciones de la empresa. Los tres trabajos coinciden en que la necesidad de recibir asesoramiento por parte del CEO aumenta con el nivel de complejidad empresarial, complejidad que está relacionada con variables como el grado de diversificación, el tamaño, el nivel de endeudamiento o la edad empresarial. La propuesta, unánime en este caso, es que los consejos tenderán a incorporar un mayor número de consejeros independientes.

En segundo lugar, los requerimientos específicos en la obtención de información por parte de los consejeros independientes para el desarrollo eficiente de sus funciones obligan a incurrir en altos costes de verificación dando pie a consejos menos numerosos y con un menor grado de independencia. Así es reconocido por los autores citados, aunque Boone et al. (2007) lo vinculan específicamente a la actividad de monitorización mientras que Coles et al. (2008) y Link et al. (2008) extienden el razonamiento a la actividad de asesoramiento. Empresas con elevados niveles de crecimiento[8], intensivas en I+D, o con elevada variabilidad en el rendimiento de sus acciones resultan más costosas de monitorizar y asesorar y el diseño del consejo tiende a ser más reducido y con menor proporción de independientes.

Como contrapunto al planteamiento anterior, existe un factor que estimula el esfuerzo de los independientes como es la capacidad de extracción de beneficios privados por parte de la dirección. Efectivamente, cuanto mayor este potencial de expropiación, mayores ventajas son las que se derivan de una

[8] El trabajo de Lehn, Patro y Zhao (2009) llega a idénticas conclusiones a las de los autores previamente citados, si bien el foco de atención reside en este caso en las oportunidades de crecimiento y en el tamaño empresarial como indicador de la complejidad. La peculiaridad de este trabajo reside en la utilización de una muestra de empresas norteamericanas que han sobrevivido durante un periodo largo de tiempo (1935-2000), lo que les permite analizar la influencia de cambios en los límites de la empresa (fundamentalmente fusiones y adquisiciones), así como de los diferentes *shocks* ocurridos en cada uno de los sectores

intensificación en este caso de la función de supervisión (Boone et al, 2007 y Link et al., 2008).

Y en tercer lugar, aunque estrechamente vinculado al factor anterior, es ineludible referirse a las características del consejero delegado y del grupo de dirección. Su capacidad de influencia, su capacidad de negociación y de ejercer el control, la existencia de incentivos alineados o no alineados con el consejo o con los propios accionistas, o su participación en la propiedad empresarial son variables a tener en cuenta y que contribuyen a conformar el complejo entramado de relaciones de agencia y de poder en el seno de la organización afectando de forma decisiva al desempeño de las funciones de asesoramiento y control.

Una buena prueba de las modelizaciones teóricas que sustentan esta evidencia empírica la podemos encontrar en los recientes trabajos de Raheja (2005) y Harris y Raviv (2008), quienes en una línea similar a Adams y Ferreira (2007), aunque con una consideración no tan explícita de la función de asesoramiento, inciden de nuevo en la idea de que tanto el tamaño como la composición de los consejos son determinados de forma endógena y dependen de ciertas características de los consejeros y de la empresa a la que representan. En ambos modelos es digna de mención la interacción planteada entre consejeros que no son miembros del ejecutivo y aquellos que sí lo son. Así, los consejeros externos con un cierto nivel de independencia, y en aras de maximizar el interés de los accionistas, deben embarcarse en la búsqueda de información de la que carecen a un cierto coste. Por el contrario, los consejeros que sí son miembros del ejecutivo son una fuente de información básica para el ejercicio de la labor de supervisión por parte de los externos, pero al mismo tiempo son capaces de extraer beneficios privados de la comunicación o no comunicación de dicha información. Harris y Raviv (2008) modelizan el

equilibrio de poder entre unos y otros lo que a su vez determina el control final del consejo, la delegación de autoridad de una parte respecto a la otra en relación a la comunicación de la información y a la adopción de decisiones y, en último término, la estructura óptima del consejo. Raheja (2005), por su parte, incorpora a la función de monitorización del consejo la evaluación de los consejeros ejecutivo como potenciales sucesores del consejero delegado, para acabar infiriendo la existencia de diferentes estructuras óptimas para diferentes tipos de firma.

En resumen, tanto el diseño óptimo del consejo como su efectividad en el ejercicio de las funciones asesora y supervisora están directamente relacionados con la disponibilidad de información para los *outsiders*, así como con las características del entorno, de la firma, o del propio consejo.

El uso de comités, la independencia del consejo y el valor de la empresa

Existen abundantes ejemplos en la literatura sobre gobierno corporativo que muestran cómo la actividad del consejo de administración viene determinada por su tamaño y por la proporción de independientes, entre ellos y como evidencia más reciente podemos citar a Coles et al. (2008) y a Link et al. (2008). En el modelo planteado en la presente tesis doctoral, indagamos en el papel desempeñado por los comités como instrumentos que permiten abordar la delegación de autoridad y aliviar las barreras a la efectividad global del consejo (Reeb y Upadhyay, 2010). Posteriormente trataremos de dilucidar las diferencias existentes entre la vertiente supervisora y la vertiente asesora de las funciones del consejo, así como si las mejoras en eficiencia son naturalmente sensibles a las particulares necesidades de asesoramiento y

supervisión en la empresa.

Así, por ejemplo, tanto Coles et al. (2008) como Linck et al. (2008) inciden en el tamaño del consejo y su independencia como medio de potenciar la efectividad del consejo tanto en tareas de supervisión como de asesoramiento. Sin embargo, la excesiva presencia de consejeros no ejecutivos puede generar problemas de coordinación, comunicación e información asimétrica limitando la efectividad del consejo. Del mismo modo, un número excesivo de consejeros también puede afectar a la cohesión y capacidad de adopción de decisiones por parte del consejo tanto en su faceta supervisora como en su faceta asesora. La utilización de comités posibilita la delegación de autoridad y logra mitigar los problemas que pueden llegar a surgir en consejos de gran tamaño o con una mayor proporción de consejeros no ejecutivos motivados principalmente por la falta de coordinación y por el holgazaneo social (Reeb y Upadhyay, 2010). El uso de comités, sin embargo, no está exento de costes pudiendo contribuir a la generación de asimetrías informativas especialmente en consejos de reducida dimensión o con mayor proporción de miembros del ejecutivo. De hecho, los resultados obtenidos por estos autores indican una influencia positiva del uso de estructuras subordinadas, tanto si los comités son asesores como supervisores, pero exclusivamente cuando los consejos se caracterizan por una mayor dimensión o por incluir una mayor proporción de independientes.

En primer lugar, la calidad de la monitorización mejora cuando los independientes incrementan su dedicación a este tipo de tareas. La participación por parte de este tipo de consejeros en comités de tipo supervisor sin duda permite ampliar su comprensión acerca del funcionamiento de la empresa dentro de su entorno operativo, aumentando su capacidad para

realizar decisiones mejor informadas (Faleye, Hoitash y Hoitash, 2011a)[9]. Por su parte, el asesoramiento efectivo por parte del consejo se beneficiaría de una cierta especialización que permitiese que un conjunto de consejeros independientes se dedicara prioritariamente a la supervisión mientras el consejero delegado pudiera desarrollar una relación de confianza con otro grupo de consejeros facilitando de esta manera el intercambio de información y la provisión/recepción de asesoramiento (Faleye, Hoitash y Hoitash, 2011b). Sus resultados evidencian en primer lugar que el uso de comités de supervisión y asesoramiento se traduce en una mejora sustancial en el desempeño de las respectivas funciones; sin embargo, y en segundo lugar, también se detecta que la existencia de consejos intensivos en monitorización perjudica notablemente la confianza con la que el consejero delegado está dispuesto a trasmitir información traduciéndose en un peor asesoramiento y en un efecto neto negativo sobre la creación de valor.

Estos argumentos nos llevan a articular nuestra primera hipótesis contrastable de manera que *el uso de comités en general, y de comités de asesoramiento y supervisión en particular, mejora la eficiencia general del consejo de administración e implica creación de valor empresarial*.

Un segundo paso en el desarrollo de nuestra investigación en el uso de comités consiste en analizar la existencia de un posible *trade-off* entre las funciones básicas del consejo, así como la idea de que la relevancia de cada una de ellas depende de ciertas características de la empresa y del entorno que la rodea. Se trata de poner de manifiesto si la intensidad supervisora y asesora llevada a cabo a través de la delegación de los trabajos del consejo en comités

[9]En este caso la información utilizada es detallada incluso a nivel de consejero, lo que les permite catalogar a un consejo intensivo en supervisión si al menos el 50% de los independientes participan en dos o más o comités supervisores

tienen una repercusión dispar en contextos donde existen diferentes necesidades de asesoramiento o de monitorización. Así, Faleye et al. (2011a y 2011b) plantean diferentes medidas al respecto como la complejidad en la que la firma opera o el poder y la influencia del consejero delegado para detectar necesidad de asesoramiento, o como el nivel de *free cash flow*, la propiedad institucional o la cobertura por los analistas para detectar necesidades de monitorización. Por su parte, Reeb y Upadhyay (2010) proponen, junto a la complejidad, el número de reuniones del consejo como variables clave para determinar la existencia de problemas de coordinación y comunicación. En definitiva, todos estas variables no son sino concreciones de algunas de las características más relevantes bien del entorno, bien de la empresa, bien del consejero delegado o del equipo de dirección, que tal y como se argumentó en párrafos precedentes se erigen como determinantes básicos de la importancia relativa de las funciones asesora y supervisora y, en última instancia, del diseño óptimo del consejo.

Los recientes trabajos de Faleye et al. (2010a y 2010b) demuestran cómo la efectividad de los consejos mejora sustancialmente a través del uso de comités, tanto en la vertiente supervisora (2011a) como en la vertiente asesora (2011b). Sin embargo, estos autores también ponen de manifiesto la ambivalencia de este superior desempeño, puesto que un aumento de la intensidad supervisora representado por una dedicación de los consejeros independientes a este tipo de funciones reduce sensiblemente la efectividad del asesoramiento y, aún más importante, la efectividad global del consejo. No obtienen, sin embargo, constatación del efecto inverso ya que un aumento de la intensidad asesora de los consejeros no hace que la calidad en el ejercicio de la supervisión se resienta.

En cualquier caso, es evidente que para llevar a cabo tanto una

supervisión como un asesoramiento eficientes los consejeros, especialmente los externos, necesitan información del negocio. Y parte de esa información nuclear del negocio se genera y transmite en los comités delegados del consejo de administración. Esto nos lleva a formular nuestra segunda hipótesis contrastable, la cual permite la siguiente constatación empírica: *En entornos empresariales complejos, donde las necesidades de asesoría son significativas, el uso intensivo de comités de tipo asesor genera valor empresarial. En entornos empresariales donde las necesidades de control son significativas, el uso intensivo de comités supervisores genera valor empresarial.*

La independencia del consejo y el pago de incentivos salariales al consejero delegado como mecanismos de gobierno corporativo.

Los consejos de administración detentan la autoridad para, en último término, adoptar o vetar las decisiones adoptadas por la dirección de la empresa. En este sentido una de sus principales funciones consiste en revisar y aprobar estrategias, someter a análisis el funcionamiento de la empresa y su financiación. Esta función es importante porque los incentivos de la dirección pueden estar guiados por la obtención de beneficios privados y no ser convergentes con los objetivos de la propiedad. Esta alineación de incentivos es necesaria tanto para que el equipo directivo aporte la información acerca del funcionamiento de la empresa necesaria para el diseño de estrategias empresariales, así como para que el equipo directivo implemente las estrategias empresariales diseñadas por el consejo de administración.

Según los modelos de agencia clásicos (Homlstrom y Milgrom, 1994), la retribución al equipo directivo (y al consejero delegado como pieza fundamental del mismo) se erige como instrumento de suma efectividad en

aras de alinear los intereses de propietarios y gerentes. De esta forma, los propietarios pueden sustituir parcialmente el control directo al equipo directivo con una remuneración ligada al rendimiento empresarial.

La remuneración del consejero delegado como instrumento de gobierno corporativo será tanto mas eficaz cuanto mayor sea la influencia del agente (en este caso el consejero delegado) sobre los resultados empresariales que sirvan de base a su remuneración (en el caso de acciones y opciones sobre acciones el valor de mercado de la empresa). Es por ello que una retribución ligada a resultados verdaderamente eficiente ha de estar emparejada con un consejo menos independiente, de forma que el consejero delegado tengo mayor autonomía -y menor oposición- en el diseño e implementación de la estrategia empresarial.

De esta forma, la inclusión en los modelos de agencia clásicos de la figura de un consejo de administración cuya función primordial es el control del equipo directivo, se deriva la siguiente hipótesis que podemos someter a contrastación: *la remuneración del CEO a través de incentivos y la independencia del consejo de administración funcionan como elementos de gobierno corporativo sustitutivos.*

Aunque esta relación de sustitución es clave en los modelos de agencia clásicos, los resultados empíricos que miden la relación entre la independencia del consejo y el pago de incentivos a consejeros delegados suelen ofrecer resultados contradictorios. Usando datos de EE.UU. Denis y Sarin (1999) y Shivdasani y Yermark (1999) obtienen una relación negativa entre la independencia del consejo de administración y la propiedad de los miembros del equipo directivo, mientras que Ryan y Wiggins (2004), Davila y Peñalva (2006) y Coles, Lemmon y Wang (2008) obtienen una relación positiva.

Un modelo teórico alternativo a los modelos de agencia clásicos para explicar la relación entre la remuneración incentivada y la independencia del consejo es el propuesto por Bebchuck, Fried y Walker (2002). Según estos autores, los consejeros delegados ejercen gran influencia sobre los miembros del consejo de administración así como sobre los miembros de los comités de remuneración que determinan su salario, influencia que es usada para obtener una remuneración mayor y menos ligada al resultado de la empresa.

En su modelo de atrincheramiento, Bechchuck, Fried y Walker (2002) desafían el supuesto fundamental en que se basan los modelos de agencia clásicos como es el que afirma que la remuneración del consejero delegado es el resultado de una negociación "entre iguales". Bebchuck, Fried y Walker (2002) argumentan que el poder que los consejeros delegados son capaces de ejercer en la negociación de su retribución genera importantes distorsiones en la estructura de la remuneración resultante. Como consecuencia, un sistema de gobierno compuesto -entre otros instrumentos- por un consejo de administración menos atrincherado (más independiente) y una remuneración al consejero delegado directamente relacionada con el valor de la empresa, previene la extracción de rentas privadas por parte de los miembros del ejecutivo, y repercute positivamente en el beneficio empresarial. Ello nos permite plantear una hipótesis alternativa a la anterior, que quedaría formulada en los siguientes términos: *Las empresas, de acuerdo con los modelos de atrincheramiento, utilizan la remuneración incentivada y los consejos de administración independientes como instrumentos complementarios de gobierno corporativo.*

Apoyando esta proposición, Conyon y He (2004) encuentran una relación positiva entre la independencia del comité de compensación y el pago de incentivos, lo cual sugiere que ambos elementos de gobierno corporativo se

utilizan de forma complementaria. Bertrand y Mullainathan (2000) encuentran que una menor sensibilidad a los resultados en la remuneración está asociada con un gobierno corporativo más débil, y Mehran (1995), y Ryan y Wiggins (2004) muestran que la remuneración ligada al valor de mercado de la empresa se usa de forma más generalizada en empresas con mayor número de consejeros externos.

En el lado opuesto, Fahlenbrach (2009) afirma que las interacciones entre instrumentos de gobierno corporativo y el montante total de la remuneración por objetivos y el exceso de remuneración pueden ser explicadas por la sustitución de instrumentos de gobierno corporativo en EE.UU. Este autor concluye que sus resultados no son consistentes con la corriente de pensamiento actual que sugiere que son los directivos atrincherados los que diseñan sus propios paquetes retributivos.

En EE.UU, cuatro estudios recientes -Guthrie, Sokolowsky y Wan (2012) Chhaochharia y Grinstein (2007) Wuang (2004) y Chung (2008)- ponen a prueba esta relación usando el cuasi experimento natural que supuso la promulgación de la Sarbanes-Oxley Law (SOX) en EE.UU. en el año 2002, y que obligaba a las empresas cotizadas a contar con una mayoría de consejeros independientes en sus consejos de administración. Estos autores obtienen resultados dispares, que van desde la complementariedad encontrada por Chaocharia y Grinstein (2007), a la falta de evidencia de Wang (2004) y Gurthie et al. (2012), o la relación negativa entre la riqueza del consejero delegado y la independencia del consejo encontrada por Chung (2008).

De nuevo, los estudios mencionados anteriormente se centran en la labor supervisora del consejo de administración, y en cómo el diseño del paquete retributivo del consejero delegado puede ser utilizado para evitar que

éste extraiga rentas privadas de la empresa que dirige. Sin embargo, al usar el pago de incentivos como instrumento de gobierno corporativo los propietarios también han de tener en cuenta los efectos perniciosos de este tipo de remuneración, como son la implementación de estrategias que conlleven mayor riesgo empresarial del que sería recomendable (dada la asimetría de riesgo que asume el consejero delegado), una mayor propensión a priorizar objetivos a corto plazo sobre el largo plazo, incentivos para adaptar la contabilidad en el tiempo al pago de opciones y acciones, o el camuflaje de resultados, entre otros.

Además, al diseñar el sistema de gobierno corporativo de cada empresa, los propietarios han de tener en cuenta que el consejo de administración y el equipo directivo interactúan en sus funciones[10] y obligaciones[11]. Así, en el diseño de los diferentes instrumentos de gobierno corporativo, se ha de tener en cuenta la influencia de cada uno de los instrumentos en la efectividad del resto. Por ejemplo, un consejo de administración independiente puede tener cierta preferencia por una determinada estructura de remuneración ligada a resultados. Esta estructura de remuneración influye, a su vez, en la gestión de la empresa llevada a cabo por el consejero delegado, en especial con respecto a la asunción de riesgos empresariales, política de dividendos, transparencia, etc. Del mismo modo, un consejero delegado con una compensación muy ligada a resultados puede manifestar su preferencia por un consejo de administración con una menor proporción de consejeros independientes, donde el consejero delegado tenga

[10] El consejo de administración determina la remuneración del consejero delegado, a la vez que éste influye en la elección del consejo

[11] Los miembros del consejo de administración aportan su experiencia y contactos empresariales para apoyar al equipo directivo en la gestión empresarial, mientras que el consejero delegado y el equipo directivo influyen en las decisiones del consejo al transmitir información esencial en la toma de decisiones, y en algunos casos (en los consejos *one-tier*) con sus propios votos

mayor poder para diseñar e implementar la estrategia empresarial, y puesto que los resultados de dicha estrategia afectan al total de su remuneración, tendrá un mayor incentivo para hacer que sus estrategias empresariales preferidas prevalezcan.

Recientemente, una nueva generación de artículos que estudia la relación entre la independencia del consejo de administración y el pago de incentivos al consejero delegado ha intentado incorporar algunos de estos elementos en sus modelos teóricos. De esta forma Kumar y Sivaramakrishnan (2008) incluyen en su modelo la transmisión de información entre los miembros del consejo de administración y la dirección de la empresa. Dada la naturaleza endógena de la remuneración incentivada, los autores predicen una relación ambigua entre la independencia del consejo y la compensación ligada al valor de mercado del consejero delegado. Ozertuk (2005), por su parte, presenta un modelo donde es el consejo de administración quien actúa de forma no totalmente independiente del consejero delegado, el que establece la remuneración de este último. En su modelo, la intensidad con que el consejo de administración supervisa al consejero delegado y la sensibilidad de la remuneración a los resultados empresariales son mayores cuanto más independiente sea el consejo de administración.

En nuestro estudio incorporamos la labor asesora del consejo de administración como elemento fundamental que puede contribuir a determinar de forma decisiva la composición del mismo. De esta forma, la relación entre la independencia del consejo de administración y la estructura de la remuneración al consejero delegado depende del peso relativo de las labores de asesoría y supervisión del consejo de administración. Por una parte, la labor monitora del consejo de administración puede verse facilitada por la existencia de una remuneración incentivada, planteándose así una relación

negativa entre la intensidad supervisora del consejo de administración y la remuneración por incentivos. Al mismo tiempo, el apoyo de los miembros del consejo de administración al diseño de la estrategia empresarial beneficia al consejero delegado al hacer aumentar el valor de su remuneración en forma de acciones y opciones sobre acciones, lo que nos induciría a esperar una relación positiva entre la intensidad asesora del consejo de administración y la remuneración por incentivos.

En resumen, el diseño del paquete retributivo del consejero delegado depende de la estructura del consejo de administración, la cual, a su vez, viene determinada por las necesidades de asesoría y control de la empresa. Todo ello nos permite proponer para su contrastación el siguiente bloque de hipótesis: *En un modelo de agencia esperamos encontrar una relación negativa entre la labor supervisora del consejo y el pago de incentivos, y una relación positiva entre la labor asesora y la remuneración incentivada al consejero delegado. En un modelo de atrincheramiento, esperamos encontrar una relación positiva entre ambas funciones y el pago de incentivos.*

DISEÑO EMPÍRICO DE LA INVESTIGACIÓN

Para nuestra investigación hemos compilado una amplia base de datos representativa de las principales economías de Europa Occidental[12] durante el periodo 1999-2009. Esta base de datos contiene información detallada de las características de gobierno corporativo proveniente del

[12] Estos países son Alemania, Austria, Bélgica, Dinamarca, España, Finlandia, Francia, Grecia, Irlanda, Italia, Luxemburgo, Países Bajos, Portugal, Reino Unido y Suecia

proveedor de datos BoardEx, e información económico-financiera obtenida de la base de datos Thomson.

Hemos creado dos paneles de datos independientes, uno para cada uno de los objetivos de investigación planteados. Para el primero de ellos incluimos información sobre comités, consejo de administración, remuneración y valor de la empresa, obteniendo un panel de datos que contiene 2 029 empresas europeas, y 11 517 observaciones. Se trata de empresas cotizadas pertenecientes a catorce países de Europa Occidental[13] durante el periodo comprendido entre 1999 y 2009. Toda la información acerca de los comités, consejo y remuneración ha sido obtenida trabajando con la base de datos original de BoardEx, mientras que los datos contables y de mercado de las empresas de nuestra muestra provienen de la base Thomson.

Para nuestra segunda pregunta de investigación hemos recabado información detallada relativa a la remuneración al consejero delegado, obteniendo un segundo panel de datos con un total de 12 362 observaciones correspondientes a 2 668 empresas durante los años 1999 a 2007. Este panel conforma una muestra representativa correspondiente a quince países de Europa Occidental. Del total de 12 362 observaciones de la muestra, el 62.7% (7 751 observaciones) corresponden a empresas con domicilio fiscal en el Reino Unido, y el resto (4 611, el 37.3%) corresponden a empresas de Irlanda y Europa Continental[14].

La diferencia principal entre las muestras utilizadas en ambos capítulos radica en que la primera de ellas contiene información de dos años adicionales de la muestra -los años 2008 y 2009- mientras que los datos del

[13] Los países anteriormente mencionados excepto Luxemburgo

[14] Este sesgo en la representación por países se debe al contenido de la base de datos BoardEx, donde la información sobre empresas en Reino Unido es claramente predominante

segundo estudio recogen el periodo 1999-2007 y un país adicional, Luxemburgo, que no está recogido en el análisis de comités. A pesar de estas diferencias, las bases de datos son similares en tamaño, representación de los principales países europeos, sectores económicos, y tipo de empresa. De hecho, la estadística descriptiva de ambas muestras revela una gran homogeneidad en sus valores agregados contables y de mercado lo que sin duda nos permite combinar los resultados obtenidos y extrapolar nuestras conclusiones al sector corporativo de Europa Occidental.

Respecto a la base de datos de comités, nuestra labor fundamental, además de eliminar valores erróneos o repetidos, consistió en generar variables suficientemente informativas, y en convertir una base de datos original con observaciones por comité/empresa/año (61 714 observaciones) en una base de datos con estructura de panel donde cada empresa aparezca recogida en una sola observación por año (con un total final de 11 517 observaciones). Así, la información sobre comités, de la que se dispone para comité/empresa/año ha sido transformada en información a nivel de empresa/año generando nuevas variables. En primer lugar generamos la variable que mide el número de comités, variable construida como la suma de veces que cada empresa aparece recogida en la muestra original, lo que coincide con el número de comités de los que la empresa dispone. En segundo lugar, generamos la variable que mide la independencia media de los comités, variable planteada únicamente en aquellas empresas para las que disponemos de información sobre el número de miembros y el número de ejecutivos por comités. En tercer lugar se ha calculado el número medio de puestos directivos presentes en los diferentes comités de la empresa. En cuarto lugar, hemos creado variables binarias que informan acerca de si las empresas cuentan con comités de remuneración, auditoría, estrategia etc. Otras variables binarias

informan de la participación del consejero delegado en comités, de la existencia de comités de tipo asesor, etc. Y, por último, también hemos clasificado los comités de la base de datos original en los subgrupos de comités supervisores, asesores y mixtos, dependiendo del tipo de función desempeñada del consejo. Esta detallada clasificación será clave en el análisis llevado a cabo con posterioridad.

La estructura de la base de datos original de BoardEx que contiene información de compensación a ejecutivos es tal que cada empresa aparece repetida cada año tantas veces como informes haya publicado ese mismo año. Así, una empresa que publicara solamente el informe anual, donde aparecen los informes de remuneración y la composición del consejo, contendría una sola entrada, pero aquellas empresas que hubieran publicado además informes trimestrales aparecerían cuatro cinco o mas veces en el mismo año en nuestra base de datos.

La primera limpieza de la base de datos consistió en recoger toda la información de los diversos informes en una sola entrada. Esta labor se hizo mediante programación informática (Stata) cuando fue posible. Por ejemplo, cuando en un informe aparecía el nombre y titulo dado al consejero delegado, y en otro su remuneración. En aquellos casos en que diversos informes recogían información divergente como diferentes datos de compensación a ejecutivos o diferentes títulos dados al consejero delegado, esa compilación se hizo de forma manual: eligiendo el informe más completo en algunos casos, agregando la información recogida en ambos informes en otros e incluso eligiendo el dato que pareciera mas correcto en casos marginales[15].

[15] Por ejemplo, en caso de que hubiera varias entradas para una misma empresa- año, se seleccionó el dato de compensación a ejecutivos de mayor importe, o, siendo importes parecidos, aquel referente al informe anual o al de la entrada más completa.

La siguiente criba consistió en eliminar datos repetidos, datos claramente erróneos (*outliers*) o datos contradictorios. Así, por ejemplo, en algunos casos la misma empresa aparece con dos consejeros delegados diferentes, o con diferentes niveles de experiencia o tiempo trabajado en la empresa. Además, en los casos en que hubo cambio de consejero delegado a lo largo de un determinado año, la empresa aparece recogida dos veces en ese periodo. Para crear nuestro panel hemos elegido al consejero con mayor retribución de los dos asumiendo que es quien más tiempo ha asumido las funciones ejecutivas.

Por último, hay muchas de las empresas en BoardEx donde la retribución al consejero delegado aparece con importe cero. Esto puede ser debido a varios factores: (1) porque BoardEx no haya transcrito la información correctamente desde los informes anuales u otra publicación donde aparezca la retribución al consejero delegado. (2) Porque la empresa no revela dicha información. A este respecto conviene tener en cuenta que la transparencia informativa acerca de la remuneración es opcional en la mayoría de países europeos y no está tan extendida como en EE.UU. (3) Porque la retribución al consejero delegado en esa empresa sea precisamente cero. Con la información de la que disponemos, no es posible conocer cual de los tres motivos es el motivo de la aparición de cero en la retribución, por lo que finalmente optamos por incluir en la muestra las observaciones con retribución cero. Una contrastación de una muestra aleatoria de nuestros datos nos lleva a la conclusión de que la mayor parte de estas observaciones corresponden a empresas que eligen no revelar los datos de retribución a sus ejecutivos en sus informes anuales, mientras que en otros casos las empresas simplemente no pagan retribución alguna a consejeros delgados que tienen una gran participación en la empresa en forma de acciones y opciones sobre acciones.

Este último caso es frecuente en empresas más pequeñas y de sectores tecnológicos, mientras que la ocultación de datos es común en países germánicos como Austria y Alemania.

En el capitulo 3, donde la retribución al consejero delegado es un elemento esencial del análisis, hemos llevado a cabo análisis de robustez con muestras donde se eliminan aquellas empresas con retribución cero, otros donde se elimina los países como Alemania y Austria de donde provienen la mayoría de estas observaciones, y otros donde se elimina todas las observaciones de cada empresa cuando en algún año aparezca una retribución de importe de cero. Estos análisis de robustez muestran que nuestras conclusiones no cambian sustancialmente con la inclusión o exclusión de dichas observaciones. Dado por lo tanto que es imposible discernir con la información a nuestro alcance a qué se debe la remuneración cero, hemos optado por incluir dichas observaciones en la versión final del trabajo y referir los diversos análisis de robustez practicados.

La información económica-financiera y de mercado ha sido obtenida del proveedor de datos Thomson. En este caso la tarea fundamental ha consistido en la criba y limpieza de datos. Por motivos de computación, dada la extensión de nuestra muestra, hemos tenido dificultad para obtener todas las variables, para todas las empresas y durante todos los años. Por lo tanto, la primera criba ha consistido en eliminar variables que no recogían ninguna información y seleccionar variables que eran necesarias para nuestro estudio.

Además de la anterior tarea, ya de por sí suficientemente compleja, se ha realizado un gran esfuerzo en la eliminación de variables y observaciones erróneas, cotejando información de empresas de diversas fuentes, eliminando

valores claramente erróneos (*outliers*), o remplazándolos por su aproximación mas certera, realizando labores de acotación de las variables (winsorización), y transformando los datos para la creación de variables informativas. Entre estas últimas podemos destacar la construcción del ratio valor de mercado entre valor contable (como medida de creación de valor), el índice o nivel de apalancamiento financiero o las diversas transformaciones logarítmicas representativas del tamaño de la empresa. A través de la fusión de cada una de las bases de datos mencionadas se ha llegado a la obtención de los paneles finales de datos. La muestra original de Thomson usada posteriormente en la fusión contiene 68 400 Observaciones con una única observación por empresa y año. Por su parte, la base de comités, elaborada a partir de la información proporcionada por BoardEx, y una vez trabajada para incluir una sola observación por empresa y año, contenía 11 517 observaciones. Por último, la muestra con información sobre compensación directiva asciende a 14 107 observaciones.

Con esta información se han generado sendos paneles que servirán para dar respuesta a cada una de los objetivos de investigación abordados en la presente tesis doctoral. Así, para el estudio de la influencia de los comités en la eficiencia del consejo de administración y en el valor empresarial hemos contado con todas las empresas de la muestra de comités. En cambio, en la sección donde se analizan las relaciones entre retribución e independencia del consejo, la información más crítica ha sido la relativa a la compensación de ejecutivos determinando la composición final del segundo panel.

La fusión se ha realizado en dos pasos. En un primer lugar se han fusionado las bases de datos de comités y compensación usando uno de los códigos proporcionados por BoardEx así como el nombre de la empresa. Para fusionar los datos resultantes con Thomson se ha utilizado el código ISIN en

aquellas observaciones en que estuviera disponible. En el resto de casos la fusión ha sido totalmente manual, cotejando los nombres de empresas, países de cotización y sectores de actividad, cuando estos datos estaban disponibles. Sobre el panel final, hemos practicado un último filtrado y transformación de datos, creando y acotando variables, deflactando datos de compensación, realizando transformaciones logarítmicas y eliminando observaciones erróneas.

Los paneles finalmente resultantes, y que han sido utilizados en la investigación, contienen un total de 11 517 observaciones (en el caso del panel que contiene información detallada acerca de comités) y 12 362 (en el caso del panel que contiene información detallada de remuneración a consejeros delegados).

Esta importante pérdida de datos en la fusión se debe principalmente a la información proporcionada por BoardEx. Así, algunas de las observaciones de la base de datos original de BoardEx corresponden a empresas que ya no cotizan en bolsa, otras empresas (sobre todo del Reino Unido, donde BoardEx tiene mayor presencia) corresponden a sectores de seguros, o financieros y no están incluidas en la muestra disponible de Thomson.

El importante sesgo de los dos paneles hacia empresas del Reino Unido se debe a la mayor presencia de información de este país en los datos proporcionados por BoardEx. Mientras la base de Thomson tiene una cobertura más extensa en el resto de países, la base de datos de BoardEx tiene cobertura limitada en países no anglosajones, especialmente en el periodo que abarca desde 1999 a 2004.

Por último, hemos puesto especial atención en completar por todos los medios a nuestro alcance la información referente a países pequeños de los

que tenemos un menor número de datos (como Austria, Dinamarca o Finlandia) de forma que estén suficientemente representados en nuestra muestra.

En resumen, hemos creado dos muestras, a partir de nuestra base de datos, representativas de las principales economías europeas durante la primera década de este siglo. Esta base de datos se caracteriza por su extensión (recoge información en la que los principales países de Europa occidental están suficientemente representados), su horizonte temporal (desde 1999 hasta 2009), y la calidad de sus datos ya que contienen amplia información tanto de carácter cuantitativo (acerca de remuneración, capitalización etc.) como cualitativo (nombre de consejeros, puesto en la empresa, nombre exacto de comités, nombre de accionistas mayoritarios, etc.).

Según la información disponible en nuestra muestra de datos, las empresas europeas cuentan por término medio con 9.1 miembros en sus consejos de administración, de los cuales el 60% no forma parte del equipo ejecutivo de la empresa. Además, el consejo de administración en una empresa media cuenta con 3 comités (el 43% de las observaciones de nuestra muestra corresponden a empresas que cuentan con tres comités en su consejo de administración), siendo los más frecuentes los comités de auditoría, remuneración y nombramientos. El consejero delegado de una empresa de nuestra muestra tiene una edad promedio de 50 años y lleva 4 años y medio en el cargo. Su salario medio es de 1 233 916 dólares y recibe acciones u opciones sobre acciones de su compañía en el 42% de los casos.

En los últimos años hemos observado una mayor concentración de la propiedad, de manera que el porcentaje medio de capital en manos de accionistas mayoritarios pasa del 18% al 34% en el periodo 1999-2009, así

como mayores niveles de endeudamiento (el índice de apalancamiento pasa del 15% al 19% en el periodo 1999-2009). También hemos observado un crecimiento en el tamaño medio de las empresas de nuestra muestra, que pasa de 17.5 millones de dólares en volumen de activos totales en el año 1999 a 26 millones en el año 2009.

A pesar del intenso desarrollo del marco regulatorio e institucional en el ámbito del gobierno corporativo en Europa desde el inicio de la década pasada, la información disponible nos permite constatar que los cambios en el gobierno corporativo de las empresas cotizadas europeas, en relación a la estructura de los consejos de administración y al pago a consejeros delegados, han sido sutiles y graduales a lo largo de la década. En nuestro estudio se evidencian como tendencias más significativas las siguientes: (1) una clara progresión hacia consejos de administración más independientes y con un menor número de miembros, (2) estabilidad en la estructura de organización de los consejos de administración en comités, con un número constante a lo largo de los años, (3) una mayor volatilidad en la remuneración de los consejeros delegados, dado que se conceden opciones sobre acciones de forma menos frecuente aunque una vez concedidas suelen ser de mayor importe (con respecto a la retribución total del consejero delegado).

En lo que al tamaño y composición de los consejos de administración se refiere, el tamaño medio de los consejos en nuestra muestra ha descendido de 10.34 miembros en el año 1999 a 8.74 en el año 2009, mientras que el promedio de consejeros no ejecutivos *(outsiders)* ha aumentado del 59% en 1999 a un 63% en el año 2009. La reducción en el tamaño medio de los consejos de administración, sin embargo, fue más pronunciada a partir del año 2003: si entre 1999 y 2003 el tamaño medio de los

consejos se redujo un 5.1% (pasando de 10.34 miembros a 9.81), la reducción entre el año 2003 y 2007 fue del 11,72% (de 9.81 a 8.66 miembros).

Por su parte, el crecimiento en el nivel de independencia de los consejos de administración ha sido menos pronunciado, y se dio principalmente durante los años previos a la aparición de la "Directiva de Modernización" (Modernization Directive, 2003/51/EC) en el año 2003, que incluía entre sus recomendaciones, precisamente, el refuerzo en la independencia de los consejos de administración. La proporción media de consejeros no ejecutivos de acuerdo con la información contenida en nuestra muestra aumentó de 58.6% en 1999 hasta un 63.1 % en el año 2009, lo que se traduce en un incremento total del 7.6%. En los años previos a la publicación de la Directiva de Modernización, la proporción de consejeros externos aumentó un promedio del 5.8% (del 58.6% en 1999 hasta el 62% en 2003). En los seis años posteriores a la promulgación de la directiva, este crecimiento fue tan sólo de un 1.7% (del 62% en 2003 al 63.1% en el año 2009). Estas cifras corroboran una corriente de opinión bastante extendida según la cual el marco institucional de gobierno corporativo en Europa tiene como objetivo establecer estándares mínimos de gobierno corporativo, de carácter orientativo, de manera que cuando los Códigos en Europa incorporan o reforman recomendaciones, éstas ya están ampliamente en vigor en las empresas, bien porque ya han sido anticipadas y asumidas por las empresas, o bien porque el cambio en los Códigos responde a una realidad ya existente en la economía real.

Uno de los datos que nuestra información revela es que a pesar de observarse cambios significativos en la composición agregada de los consejos de administración (en la independencia y el tamaño), la estructura interna de los consejos en comités ha permanecido bastante estable durante el periodo

de estudio. El consejo de administración de una empresa representativa europea tiene una media de tres comités, siendo los comités de auditoria (aproximadamente un 90% de empresas tiene comité de auditoria), nombramiento (presente en el 45% de las empresas), y remuneración y nombramiento (en el 12% de las empresas) los más comunes en nuestra muestra. La Comisión Europea recomienda (Recomendation on the Role of Non-Executive/Supervisory Directors and Supervisory Board Committees, Febrero 2005) el establecimiento de comités de nominación, remuneración, y auditoria. Cabe destacar que menos del 25% de las empresas recogidas en nuestra muestra han establecido algún comité de tipo asesor (como comités de estrategia, organización, o gestión de riesgos).

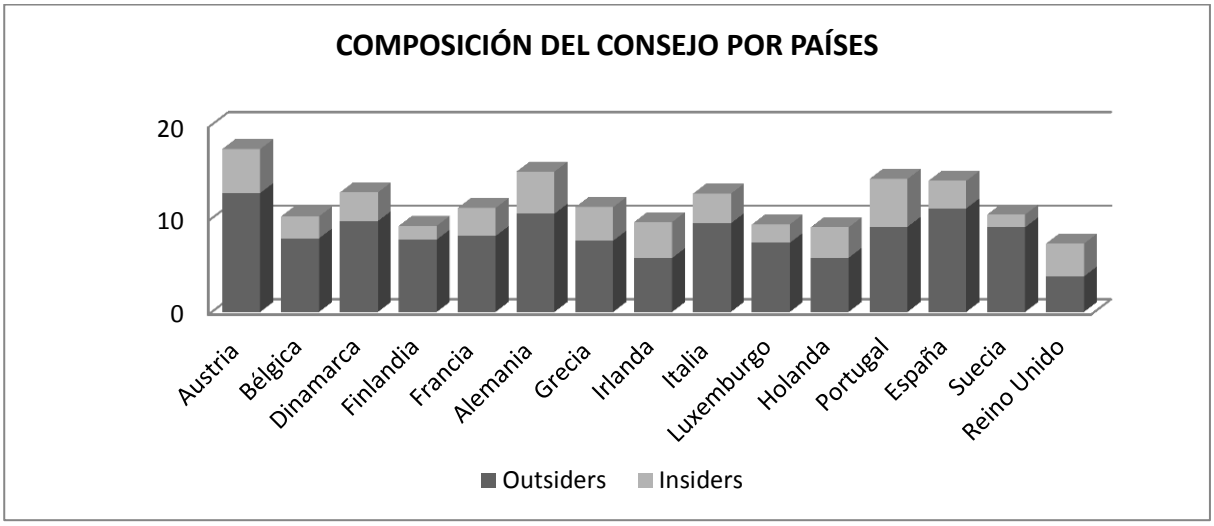
Del mismo modo, en nuestra muestra se observa una disminución del tamaño promedio de los comités de 3.66 a 3.33 miembros, y una disminución promedio del 4.3% en la proporción de consejeros no ejecutivos dentro de los comités (del 62% en 1999 al 59.3% en 2009). Dada su naturaleza, los comités de supervisión son en promedio más independientes que los comités asesores, donde tan sólo el 14% de sus miembros son consejeros externos.

Estos rasgos, aunque relativamente estables en promedio a lo largo del tiempo, varían considerablemente entre los diferentes países de la muestra. Es evidente que, al menos hasta la fecha, coexisten importantes diferencias institucionales, económicas, de marco regulatorio y de carácter histórico que el proceso de convergencia de los sistemas de gobierno en el que los países europeos están inmersos no han conseguido eliminar (Goergen, 2007). En nuestra muestra, Suecia es el país que cuenta con consejos de administración con un menor número de comités (en promedio 2.08 comités, con un promedio de 1.87 comités de supervisión y tan sólo 0.21 comités

asesores de promedio), mientras que, en el extremo contrario, Alemania es el país con mayor número de comités (en promedio 3.18 comités, 1.53 comités supervisores y 1.6 comités asesores). Suecia cuenta además con los comités más independientes (con un promedio por empresa de 67% de consejeros externos), mientras que Grecia tiene las empresas con comités menos independientes (39% de externos de media). En el caso del Reino Unido, sus empresas cuentan con un promedio del 59% de consejeros externos en la composición de sus comités.

Uno de los puntos fuertes de nuestra base de datos reside precisamente en el hecho de recoger información de países con sistemas de gobierno tan dispares como Reino Unido, máximo representante del modelo de gobierno anglosajón, o Alemania, Austria y Dinamarca donde impera el modelo de gobierno continental, con rasgos radicalmente diferentes al primero. Así, a título de ejemplo, los consejos de administración alemanes y austriacos tienen una estructura de "doble capa" (*two-tier*), con un consejo supervisor encargado de monitorear la labor del equipo directivo, mientras que los consejos unitarios (con una estructura de una sola capa, o *one-tier*) están formados por miembros del ejecutivo y consejeros externos conjuntamente. Este rasgo influye significativamente, por ejemplo, en los tamaños de los consejos, como se ve reflejado en la figura 1, donde se presenta la composición del consejo de administración por países. En ella podemos observar que países con sistema de doble capa (*two-tier*) como Alemania y Austria tienen consejos mas numerosos (medidos como la suma de consejeros externos u *outsiders* más miembros del equipo ejecutivo o *insiders*), mientras que países como Reino Unido o Finlandia, donde la estructura de consejo unitaria (*one-tier*) es norma común, son aquellos con un menor numero de miembros en sus consejos.

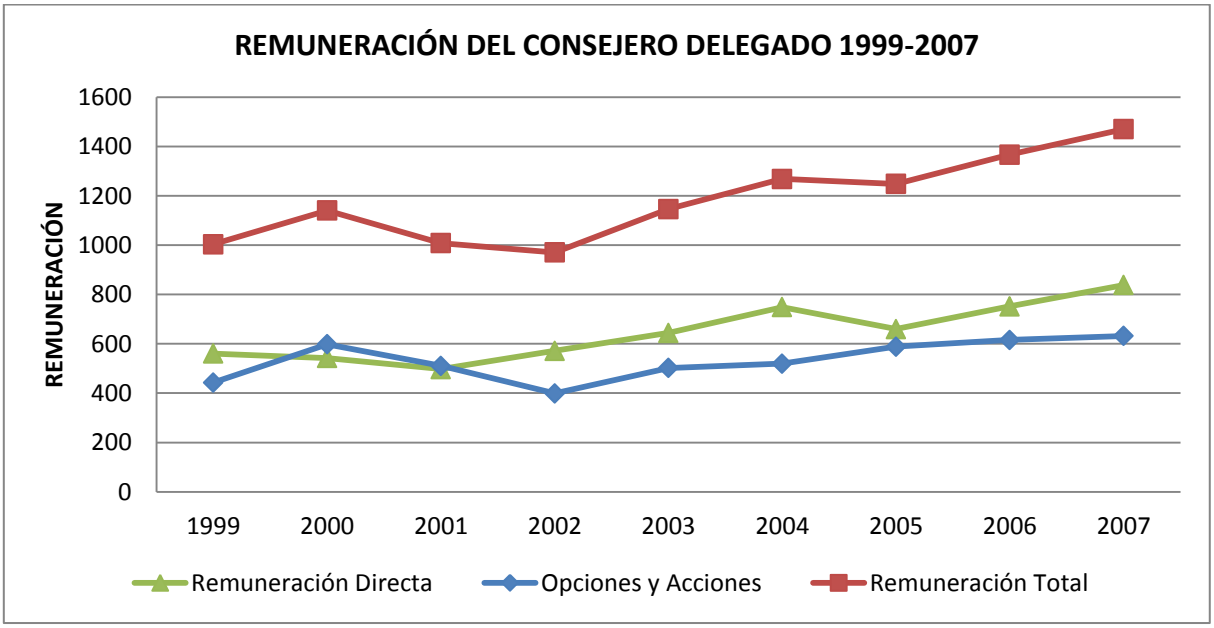
FIGURA 1. COMPOSICIÓN DEL CONSEJO POR PAÍSES



En nuestra muestra, el consejero delegado representativo ganó un promedio de 1 470 000 dólares en el año 2007. Los consejeros delegados recibieron remuneración ligada a la evolución en la cotización de las acciones (*equity linked compensation*) en el 42.52% de las observaciones, mientras que en el 57.48% de los casos su remuneración no incluía ningún tipo de opciones sobre acciones o acciones. Cuando recibieron remuneración ligada a acciones, esta constituyó en promedio un 45.9% de su compensación total.

En la figura 2 podemos observar que la evolución del pago en acciones durante la década pasada evolucionó en paralelo al debate público en ambos lados del Atlántico sobre la compensación a ejecutivos. Así, el importe total de la remuneración ligada a acciones (acciones y opciones) se redujo considerablemente en el año 2000, después del estallido de la burbuja tecnológica a finales de los años 90 y del que el fuerte incremento en la concesión de opciones sobre acciones de finales de los 90 fue en gran medida responsable.

FIGURA 2. COMPENSACIÓN AL CONSEJERO DELEGADO 1999-2007



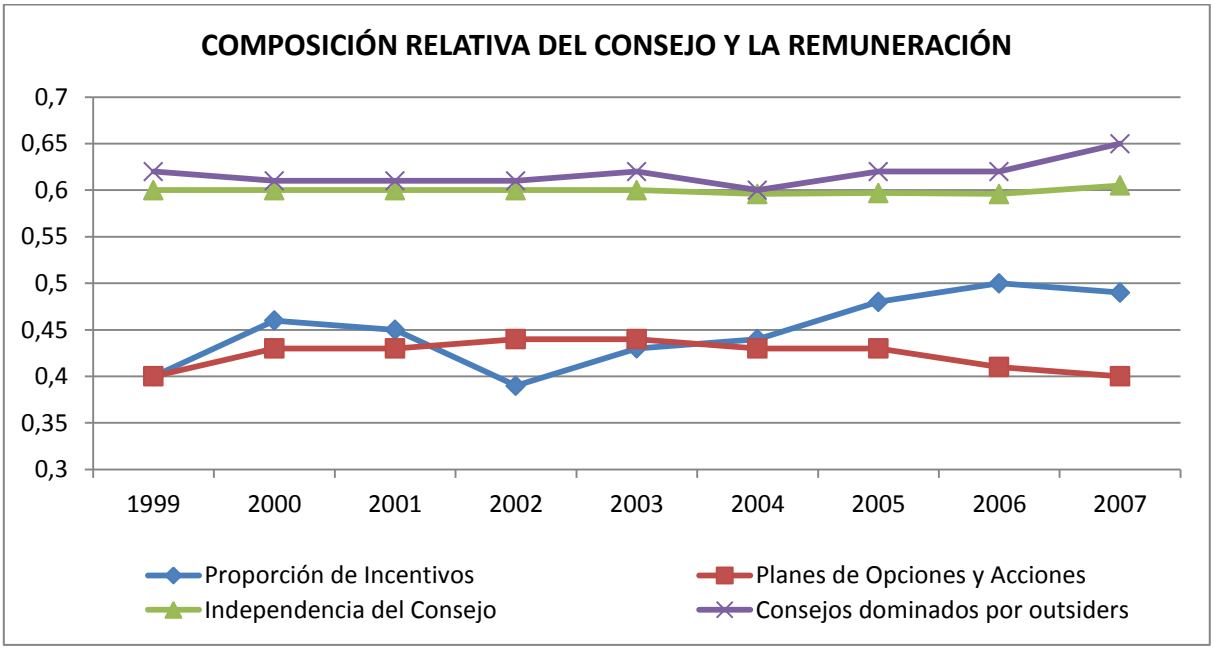
El declive en la concesión de acciones y opciones sobre acciones como parte de la remuneración a los directivos se mantuvo hasta finales del año 2001, fecha en la que se destapa el escándalo del fraude contable ligado a la remuneración incentivada de ejecutivos en la empresa americana Enron. Como consecuencia de este suceso, los planes de opciones se comenzaron a asociar con la distorsión de los incentivos empresariales y con la manipulación contable y del volumen de ingresos declarados. Políticos, reguladores y académicos cuestionaron la efectividad este este tipo de remuneración. A pesar de esta mala prensa y del debate en la opinión publica acerca de la bondad de las opciones sobre acciones, el pago de este tipo de remuneración aumentó durante el periodo 2002-2007 debido probablemente al crecimiento económico y al incremento en la cotización bursátil de las empresas. Tanto el incremento del pago ligado a acciones como el volumen total de la compensación a ejecutivos han llevado a cuestionar amargamente los niveles de compensación a miembros del equipo ejecutivo en empresas cotizadas, especialmente a partir de 2007 cuando los efectos de la crisis actual se

empezaron a notar, recrudeciéndose a medida que ha ido empeorando la situación de la economía mundial.

También observamos en la figura 2 que la evolución de la remuneración ligada a acciones en la pasada década siguió la misma trayectoria que la remuneración directa (salario base más los bonos por consecución de objetivos) y que la remuneración total, obteniendo en el año 2007 los niveles mas altos y en 2002 su nivel mínimo.

Aunque la cantidad de remuneración ligada a acciones ha aumentado desde el año 2002 hasta el 2007, en la figura 3 observamos que la proporción de empresas que conceden remuneración ligada a acciones ha disminuido desde el año 2002, como podemos observar en la línea que muestra los planes de opciones y acciones. Esta línea muestra la proporción de consejeros delegados que reciben algún tipo de compensación ligada a acciones. Así, en el año 1999, el 40% de los consejeros delegados de nuestra muestra recibió remuneración ligada a acciones. En el año 2002, el 45% de los consejeros delegados recibió este tipo de compensación. A partir de esa fecha la proporción de empresas con ese tipo de planes disminuye hasta alcanzar de nuevo el 40% en el año 2007. Aun así, las empresas que conceden este tipo de remuneración pagan una mayor proporción de la remuneración del consejero delegado en este tipo de acciones. Como vemos en la figura 3, la proporción de la remuneración total del consejero delegado en forma de acciones (denominada proporción de incentivos en el gráfico) se ha incrementado constantemente desde el año 2002.

FIGURA 3. COMPOSICIÓN RELATIVA DEL CONSEJO Y LA REMUNERACION

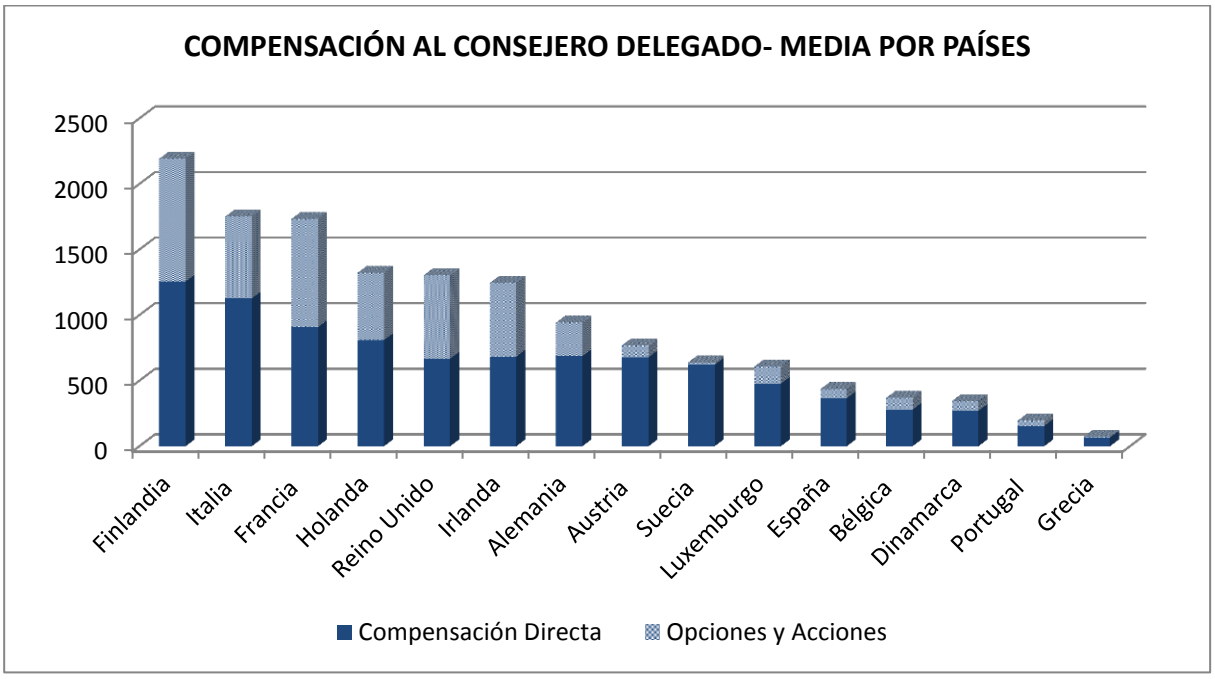


A diferencia de los datos de consejos (en los que observamos una gran dispersión entre empresas, pero no tanto entre países o a lo largo del tiempo), los datos de remuneración se caracterizan por una gran dispersión y volatilidad, tanto entre países y empresas (*cross section*), como a lo largo de los años (*time series*), en incluso dentro de cada empresa a lo largo del periodo de estudio.

Esta dispersión se evidencia en la figura 4 donde se pueden observar las grandes diferencias existentes en compensación a consejeros delegados entre todos los países de la muestra. Así, en promedio, los consejeros delegados de las empresas finlandesas, italianas y francesas son los que obtienen una mayor remuneración, mientras que los consejeros delegados de las empresas griegas, portuguesas y danesas se sitúan en niveles mínimos. Hay que destacar el hecho de que los valores medios y medianos de remuneración por países varían mucho (dando una medida de la gran dispersión de los datos) de forma que si tomamos como referencia el valor

mediano de compensación (ver figura 5), los consejeros delegados de las empresas austriacas, finlandesas e italianas serían los que mayor remuneración obtienen, mientras que los consejeros delegados de las empresas suecas, españolas y griegas son los que reciben menor remuneración.

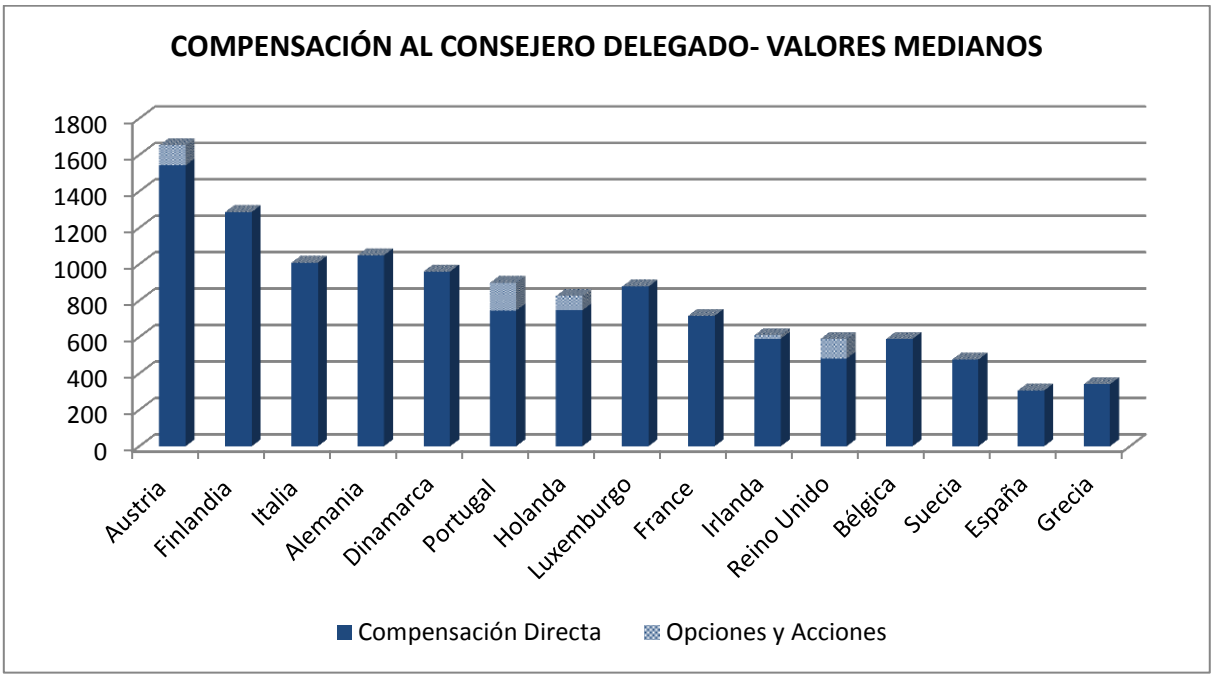
FIGURA 4. COMPENSACIÓN AL CONSEJERO DELEGADO, MEDIA POR PAISES



El hecho de que el Reino Unido no sea uno de los países donde observamos valores superiores puede deberse a la forma en que la muestra esta construida. Las empresas que cotizan en el Reino Unido constituyen un total del 62.7 % de los datos provenientes de BoardEx, lo que quiere decir que tanto empresas grandes como aquellas de menor tamaño han sido incluidas en la muestra. El número de observaciones correspondientes al resto de los países es mucho menor, lo cual quiere decir que mayoritariamente las mayores empresas de cada país son las que forman parte de la muestra. Es por ello

posible que la inclusión de empresas de menor tamaño pueda reducir los valores de remuneración medios y medianos en el Reino Unido.

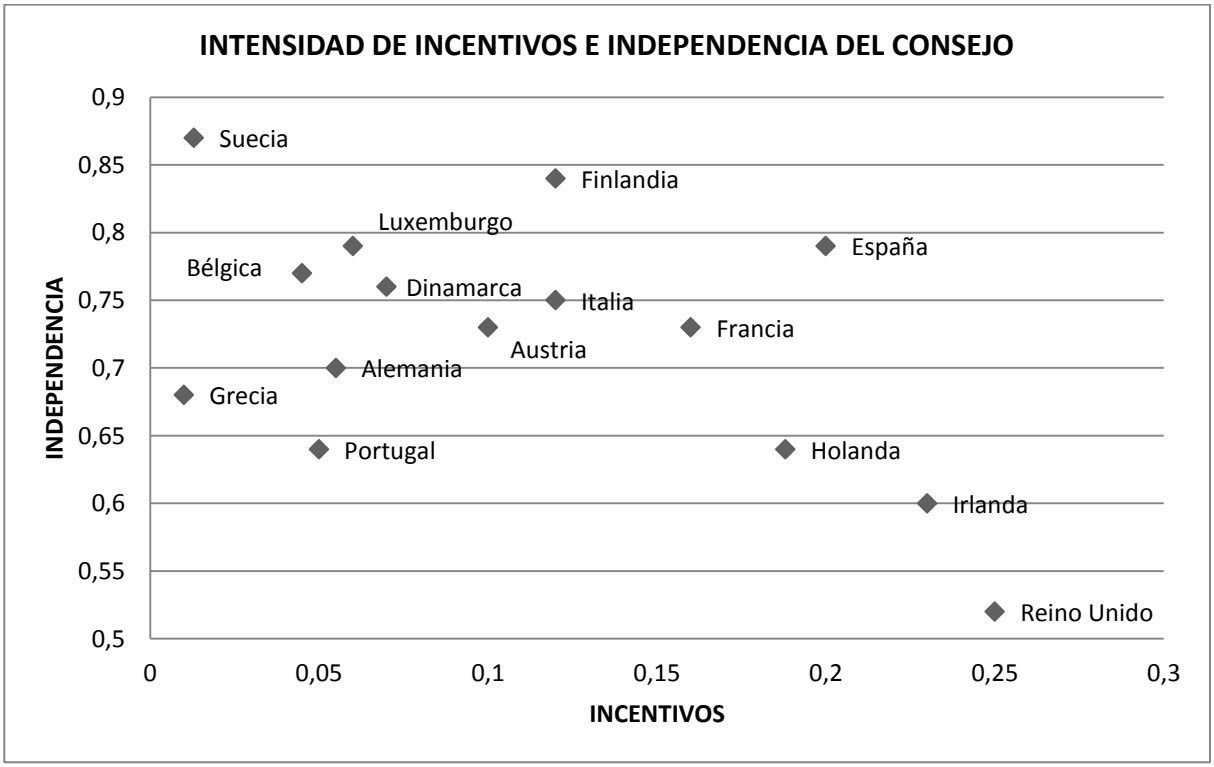
FIGURA 5. COMPENSACIÓN AL CONSEJERO DELEGADO, VALORES MEDIANOS



Finalmente, en la figura 6, se muestra el uso conjunto de remuneración incentivada y proporción de consejeros no ejecutivos en los diferentes países de nuestra muestra. Vemos que países dentro de la tradición legal escandinava (como Suecia) son aquellos en los que se observa una mayor correlación inversa en el uso de ambos instrumentos, es decir, consejos más independientes junto con remuneración menos ligada a incentivos. En el lado opuesto encontramos países dentro de la tradición legal anglosajona (Reino Unido, Irlanda) con altos niveles de compensación ligada a incentivos y menor proporción de consejeros externos en sus consejos de administración. En promedio, la complementareidad es más acentuada en países de la tradición legal francesa, como España, Francia y Portugal. En estos países las empresas

conceden remuneración ligada a la evolución de las acciones en el 3%, 29% y 9% de las observaciones. Hay que tener en cuenta que estos datos representan únicamente promedios por países, y dada la dispersión de la remuneración en Europa es preciso interpretarlos con sumo cuidado, pues las características especificas de las empresas que conforman la muestra (y que estudiamos más adelante) son las principales responsables de la forma y definición de este tipo de información.

FIGURA 6. INTENSIDAD DE INCENTIVOS E INDEPENDENCIA DEL CONSEJO



De cualquier manera, estos datos sí son representativos de las principales economías europeas y nos muestran las grandes disparidades existentes entre países, lo que nos permite afirmar que la convergencia regulatoria no se ha traducido aún en una convergencia real en la forma en que las grandes corporaciones europeas son gobernadas.

Estas divergencias tienen sin duda su origen en las distintas realidades económicas y en las diferencias culturales y de tradición legal que no pueden ser desestimadas cuando se aborda la armonización del gobierno corporativo en Europa. En este contexto cobra fuerza la teoría de "convergencia como proceso" (*path dependence convergence*) expuesta por Hopt y Leyens (2005). Se permite así a las empresas adaptarse y competir de forma que evolucionen hacia un sistema de gobierno corporativo híbrido que sea el resultado de la armonización de la economía real más que de la imposición de un modelo de gobierno corporativo sobre otro. La Unión Europea ha optado, por lo tanto, por incrementar la flexibilidad dentro del marco institucional, de forma que las empresas tengan mayores posibilidades de elegir el diseño de su gobierno corporativo (por ejemplo, en cuanto a estructura del consejo de administración) como medio de converger hacia un mercado más armonizado, donde diferentes empresas, con diferentes modelos de gobierno corporativo, coexistan y compitan en un mercado unificado y eficiente a nivel europeo. La filosofía subyacente es que otorgando flexibilidad a las empresas para que elijan entre los diferentes modelos de gobierno la convergencia se realizará de forma más efectiva. La convergencia de las distintas realidades económicas hará converger a su vez los distintos modelos de gobierno corporativo que las empresas eligen de forma más efectiva que si se impone "desde arriba" un modelo único de obligado cumplimiento. El hecho de que en países como Francia, Italia y Finlandia se permita a las empresas elegir entre los diferentes modelos de Consejos de Administración, y de que diferentes estructuras de gobierno coexistan simultáneamente, no hace más que ratificar la tendencia anterior.

Diseño empírico, avance de resultados, y contribución a la literatura

Para analizar si la introducción de información acerca de comités nos ayuda a entender mejor la relación entre la independencia del consejo de administración y el valor de la empresa, comparamos los resultados de una ecuación clásica del valor con los resultados de una ecuación aumentada o extendida, donde además de los elementos característicos de la ecuación de referencia se incluye información acerca de la composición y naturaleza de los comités en que organiza el consejo de administración su trabajo. Con este procedimiento, podemos medir tanto el impacto directo del uso de comités sobre el valor de la empresa, como su repercusión en la relación ampliamente estudiada entre nivel de independencia del consejo y valor.

El método econométrico utilizado es el modelo llamado "*Heckman Two step Maximum Likelihood Estimation*" (en adelante modelo de Heckman). Este método tiene en cuenta el posible sesgo en las estimaciones debido al hecho de que la creación de comités dentro del consejo no es aleatoria, sino el resultado de un proceso de optimización del sistema de gobierno corporativo de la empresa (sesgo de autoselección).

Con el método de Heckman la estimación se realiza en dos etapas. En un primer paso se estima cuáles son los factores que afectan al diseño del consejo en comités, obteniéndose una estimación de la propensión de la empresa a usar comités de forma intensiva. En una segunda etapa se incorpora la anterior información en la ecuación de valor, de forma que se elimina el sesgo de autoselección consiguiendo una estimación consistente de los coeficientes que centran nuestro interés.

Las ecuaciones que se estiman según el modelo de Heckman son las siguientes:

$$Q_{it}=\alpha+\beta_1 OUTSIDERS_{it}+\beta_2 COM_{it}+\beta_3 LNBOARDSIZE_{it}+\beta_4 WEALTHDELTA_{it} + \beta_5 OWNERSHIP_{it}+ \beta_6 LEVERAGE_{it}+ \beta_7 LNASSETS_{it}+ \beta_{8\text{-}18} INDUSTRY_{it}+ \beta_{19\text{-}30} YEAR_{it}+\sigma\rho_1\lambda_{it}(X_{it})+\varepsilon_{it} \quad (1)$$

$$Pr(COMMITTEE_{it}=1)=\gamma_0+\gamma_1 OUTSIDERS_{it}+\gamma_2 LNBOARDSIZE_{it}+\gamma_3 OWNERSHIP_{it} + \gamma_4 CHAIRMAN_{it} + \gamma_5 INTERLOCKING_{it} + \gamma_6 LNASSETS_{it} + \gamma_{7\text{-}17} INDUSTRY_{it} + \gamma_{18\text{-}19} YEAR_{it}+\mu_{it} \quad (2)$$

En la ecuación de resultados (ecuación 1), que es la ecuación que centra nuestro interés, el valor de la empresa se estima en función de variables que expresan ciertas facetas del gobierno corporativo de la empresa, así como características específicas de la propia empresa y de los mercados donde ésta opera. Así, en la ecuación 1 el valor de la empresa, medido por el cociente entre el valor de mercado de la empresa entre el valor contable (Q financiera), depende de la proporción de miembros del consejo de administración que no pertenecen al equipo directivo de la empresa (OUTSIDERS), de la información sobre comités (COM), del tamaño del consejo (LNBOARDSIZE), de la sensibilidad de la remuneración al consejero delegado al resultado empresarial (WEALTHDELTA), del índice de apalancamiento (LEVERAGE) y la estructura de propiedad (OWNERSHIP), del tamaño de la empresa (LNASSETS) y de variables binarias relacionadas con la industria y el periodo temporal. Además se incluye el término $\sigma\rho_1\lambda_{it}$ (X_{it}), que corrige el sesgo de autoselección en los modelos de Heckman. Por último, ε_{it} es el término de error.

La ecuación de selección (ecuación 2) nos proporciona una estimación de cuáles son los determinantes del uso intensivo de comités. En la ecuación de selección la variable dependiente (COMMITTEE) es una variable binaria, que toma el valor uno si la empresa usa de forma intensiva los comités. Las variables explicativas miden las necesidades de asesoramiento y control de

la empresa. Estas variables son la independencia del consejo (OUTSIDERS), el tamaño del mismo (LNBOARDSIZE), la concentración de propiedad (OWNERSHIP), una variable binaria que toma el valor uno si el consejero delegado es también presidente del consejo (CHAIRMAN), la interconexión de los consejeros (INTERLOCKING) medida como la media de puestos o asientos en consejos de administración de los miembros de consejo, el tamaño de la empresa (LNASSETS), variables binarias sectoriales y temporales, y el término de error, μ_{it} .

En un primer momento estimamos el modelo base o modelo de referencia suprimiendo la información sobre comités (variable COM) de la ecuación de resultados. En la ecuación de selección utilizamos como variable dependiente (COMMITTEE) una variable binaria que toma el valor uno si la empresa cuenta con más de tres comités en su consejo de administración y cero en caso contrario. Este modelo de referencia nos permite medir el impacto producido por la utilización de comités al comparar sus resultados con los del modelo aumentado o extendido, donde sí es incluida la información sobre comités. Para medir si el uso de comités mejora la eficiencia general del consejo de administración comparamos la magnitud y "significación estadística" del impacto estimado de la variable que mide la independencia del consejo sobre el valor de la empresa en ambos modelos. Es decir, comparamos el valor y la significación del coeficiente β_1 en el modelo base, donde no se incluye la variable de comités, con la estimación obtenida al incluir dicha información. Si el uso de comités es importante para la transmisión de información dentro de los consejos de administración y contribuye a mejorar la eficiencia de los consejos independientes, deberíamos observar una mayor magnitud y un mayor nivel de significación estadística del coeficiente que mide el impacto de la independencia del consejo sobre el valor en el modelo

aumentado, donde la información sobre comités sí es tenida en cuenta. Adicionalmente podremos observar si la información sobre comités mejora la significación estadística conjunta del modelo planteado.

De los resultados del modelo de referencia (sin información acerca de comités en la ecuación de resultados) se desprende una relación positiva entre el valor y el tamaño del consejo de administración y una relación negativa entre valor y el tamaño de la empresa (activos totales) y el nivel de apalancamiento (LEVERAGE). La estimación del coeficiente de la variable OUTSIDERS (β_1), es positiva con un valor de 0.516 aunque no estadísticamente significativa (*p-value* de 0.211), lo cual viene a confirmar en nuestra muestra la ausencia de relación significativa entre la independencia del consejo y el valor. Este resultado, muy en línea con los obtenidos recientemente por Wintoki et al (2012) o Palia (2011), no significa necesariamente que no exista una relación económica entre ambos conceptos, pudiéndose explicar bien por motivos económicos (como que las empresas siempre adapten el diseño de sus consejos de administración para que tengan el nivel óptimo de independencia), econométricos (por problemas de endogeneidad en las regresiones), de medición (que las variables utilizadas no midan correctamente los parámetros de interés), o de planteamiento del modelo (que haya variables fundamentales omitidas). En la sección de resultados del capítulo 2 (sección 4) explicamos con más detalle esta falta de significación en la ecuación de referencia, las posibles explicaciones y soluciones al mismo, así como la adecuación de nuestra metodología al problema de la medición del valor empresarial.

En cuanto a los determinantes del uso intensivo de comités, observamos que la propensión a usar comités de forma intensiva aumenta con el tamaño del consejo y de la empresa, y disminuye con el nivel de independencia del consejo, con la concentración de propiedad, con la dualidad

del consejero delegado, y con la interconectividad de los miembros del consejo. La interpretación de la relación positiva entre el tamaño del consejo y el uso intensivo de comités reside en el hecho de que los consejos más numerosos tendrán mayor predisposición y capacidad para crear comités, comités que podrán proporcionar importantes beneficios a nivel organizacional al permitir mejorar la división de tareas, la colaboración y la transmisión de información. Por su parte, la relación positiva entre tamaño de la empresa y el uso intensivo de comités puede fundamentarse en la idea de que un mayor tamaño implica una mayor complejidad organizativa y operacional, complejidad con la que es más fácil lidiar a través de la superior capacidad de control y asesoramiento que proporciona el uso de comités.

La evidencia de que la utilización de mecanismos alternativos de gobierno como la dualidad del consejero delegado, la interconectividad de los miembros del consejo, o la concentración de propiedad tienen un impacto notable sobre el uso de comités viene a reafirmar la hipótesis que las empresas diseñan sus estructuras de gobierno corporativo como un sistema global en el que las interrelaciones entre los instrumentos de gobierno son tenidas en cuenta. De esta forma, empresas con gran concentración de propiedad, con consejos más independientes, o con consejeros mejor interrelacionados, harán un uso menos intensivo de los comités. Otro de los fenómenos observables consiste en la menor tendencia al empleo de comités en empresas donde el consejero delegado es también presidente del consejo de administración; en este tipo de empresas el diseño de la estrategia empresarial reside no tanto en el consejo como en el propio equipo de dirección, y la transmisión de información desde éste hacia aquél pierde relevancia. Puede tener lugar además un proceso de atrincheramiento si el consejero delegado utiliza la autoridad que le otorga su puesto como presidente del consejo para eludir el

control ejercido por los propietarios de la empresa a través de los comités de supervisión.

En general los resultados obtenidos en la estimación del modelo base o de referencia se pueden resumir de la siguiente manera: (1) la relación entre el valor de la empresa y la independencia del consejo de administración es positiva aunque no estadísticamente significativa, (2) el uso intensivo de comités por parte del consejo de administración está positivamente relacionado con el tamaño del consejo y de la empresa, y negativamente relacionado con la independencia del consejo, la dualidad del consejero delegado, la interconectividad de los miembros del consejo y la concentración de propiedad.

Comités y creación de valor

Una vez estimado el sistema de ecuaciones de referencia, añadimos a nuestro estudio información sobre los comités añadiendo a la ecuación de resultados el término $\beta_2 COM_{it}$, que es el que recoge directamente la información sobre comités. La variable COM_{it} recoge alternativamente el número de comités en la empresa y el nivel medio de independencia. Utilizamos el modelo de Heckman en la estimación del sistema formado por las ecuaciones (1) y (2).

Puesto que pretendemos estudiar tanto el impacto directo del uso de comités en el valor de la empresa, como su repercusión en la incidencia que otras variables relacionadas con el gobierno (por ejemplo grado de independencia) tienen sobre el valor, realizaremos dos tipos de análisis diferentes. En el primero de ellos se incluye directamente la variable con información sobre comités en la ecuación sobre el valor y se analiza la

magnitud y significación estadística del correspondiente estimador (β_2). Si el uso de comités mejora el resultado empresarial esperamos obtener un coeficiente de signo positivo y estadísticamente significativo,

En segundo lugar se estudia el impacto comparativo de los resultados del modelo aumentado con el modelo base o modelo de referencia, comprobando si la nueva información acerca de comités comporta o no una mejora global de la estimación realizada. Especial atención merece la magnitud y significación estadística del impacto estimado de la variable que mide la independencia del consejo sobre el valor de la empresa (OUTSIDERS) en ambos modelos. Si el uso de comités es esencial para la transmisión de información dentro de los consejos de administración y ayuda a mejorar la eficiencia de consejos independientes, debiéramos constatar una mayor magnitud y un mayor nivel de significación estadística del citado coeficiente.

En general los resultados obtenidos confirman la primera hipótesis de nuestro modelo de comités, que establece que el uso de comités en general es beneficioso para la empresa, al encontrar un impacto positivo del uso de comités sobre el valor de la empresa. El coeficiente estimado del impacto del numero de comités sobre el valor de la empresa es 0.122 (Tabla 8 columna 2, situada en el capitulo 2), mientras que el coeficiente de la variable que mide la independencia de los comités sobre el valor de la empresa es 0.564 (Tabla 9 columna 2 del capítulo 2). Ambos coeficientes son positivos y significativos.

Sin embargo, la introducción de la información sobre comités en nuestras regresiones no ayuda a explicar la relación entre independencia del consejo de administración y valor de la empresa, que sigue siendo no significativa. La introducción del término $\beta_2 COM_{it}$ en la ecuación de valor, no implica ningún cambio en el nivel de significación estadística del coeficiente β_1.

No podemos constatar, por lo tanto, que la introducción de información sobre comités en general mejore el modelo de referencia a partir de una mejora en la eficiencia de los consejos de administración independientes.

El análisis se completa en las siguientes subsecciones investigando de forma diferenciada el impacto de los comités de tipo supervisor y de los comités de tipo asesor sobre el valor de la empresa.

Comités de supervisión y creación de valor

Para analizar cómo el uso de comités de tipo supervisor ayuda a generar valor, repetimos la estimación del sistema de ecuaciones (1) y (2), utilizando información sobre comités supervisores en la ecuación de resultados (ecuación 1), y analizamos los determinantes de un uso intensivo de comités de tipo supervisor en la ecuación de selección (ecuación 2). Para ello procedemos a utilizar de forma alternativa el número y la independencia de comités supervisores como variables explicativas en la ecuación de resultados (COM); en la ecuación de selección utilizamos como variable dependiente la variable COMMITTEE, variable binaria que toma el valor uno si la empresa cuenta con más de dos comités de tipo supervisor en su consejo de administración y cero en caso contrario. Los resultados de dichas regresiones se encuentran en la Tabla 8 columna 3, y en la Tabla 9 columna 3 del capítulo 2.

Los resultados no arrojan evidencia empírica significativa (de signo positivo o negativo) acerca de la influencia del uso de comités de tipo supervisor en el valor de la empresa. Esta falta de evidencia se constata tanto en el impacto directo sobre el valor como en el impacto sobre el coeficiente que refleja la incidencia del nivel de independencia sobre el valor.

En relación a los determinantes del uso intensivo de los comités de

control (ecuación de selección), es reseñable la relación negativa y significativa entre el uso intensivo de comités de tipo supervisor y el tamaño del consejo de administración. Este resultado, junto con la relación positiva encontrada entre el uso intensivo de comités en general y el tamaño de consejo, hace suponer que empresas con consejos de administración más numerosos utilizan este mayor tamaño como trampolín para disponer de un mayor número de comités de tipo asesor, como podemos comprobar en la siguiente subsección.

El uso de comités de tipo asesor y el valor de la empresa

En esta ocasión se estima de nuevo el modelo de Heckman a través de sus dos ecuaciones incluyendo información relativa al número y la independencia promedio de los comités asesores de la empresa como variable explicativa en la ecuación de resultados, así como una variable binaria que toma el valor uno si la empresa cuenta con al menos un comité de tipo asesor en el consejo y cero en caso contrario como variable dependiente en la ecuación de selección.

En los resultados obtenidos, que se muestran en la tablas 8 columna 4 y en la tabla 9 columna 4 del capítulo 2, encontramos una relación positiva y significativa entre el número de comités de tipo asesor y el valor de la empresa, una vez tenida en cuenta la no aleatoriedad en la creación de comités asesores. De la ecuación de selección se desprende que la independencia del consejo de administración está positivamente relacionada con la existencia de comités de tipo asesor. Además, también constatamos una repercusión indirecta, puesto que al introducir información acerca de comités asesores en nuestras regresiones el impacto de la variable OUTSIDERS sobre el valor de la empresa se torna positivo y significativo. Este resultado confirma nuestra

hipótesis según la cual las empresas con consejos de administración más independientes son las más beneficiadas con la creación de comités de tipo asesor, pues es en este tipo de comités donde la transmisión de información entre consejeros internos y externos se produce de forma más eficiente.

En general estos resultados apoyan las hipótesis de nuestro modelo acerca del uso de comités asesores: (1) encontramos evidencia empírica de la relación positiva entre el uso de comités asesores y el valor de la empresa, (2) también constatamos que la introducción de información sobre los comités de tipo asesor proporciona poder explicativo (significancia estadística) al nivel de independencia del consejo de administración sobre el valor de la empresa, (3) por último, apoya parcialmente nuestra segunda hipótesis según la cual en entornos donde las necesidades de asesoramiento son mayores el uso intensivo de comités asesores contribuye a la creación de valor.

Con objeto de reforzar nuestra contribución empírica llevamos a cabo tres análisis de sensibilidad de carácter complementario. En primer lugar dividimos la muestra por industrias y seleccionamos aquellas empresas que pertenecen al sector de nuevas tecnologías con objeto de compararlas con empresas que pertenecen a sectores tradicionales, estimando las ecuaciones (1) y (2) de forma separada para cada uno de los grupos. Con este análisis tratamos de obtener evidencia empírica para la hipótesis de nuestro modelo que afirma que empresas con mayores necesidades de asesoramiento se benefician en mayor medida de la constitución de comités en general, y de comités asesores en particular. Los resultados obtenidos apoyan parcialmente este supuesto ya que el impacto del número de comités en general sobre el valor de la empresa es positivo y significativo para las empresas en los sectores de las nuevas tecnologías, mientras que no lo es en el caso de empresas integradas en sectores tradicionales. Sin embargo la independencia de los

comités no está estadísticamente relacionada con el valor empresarial en los sectores tecnológicos, sí estándolo en el caso de las empresas pertenecientes al resto de la muestra.

Para el segundo análisis de sensibilidad se divide la muestra en función del tamaño de la empresa y estimamos las ecuaciones (1) y (2) de forma separada para entidades con un tamaño menor o mayor que la mediana muestral. En el grupo empresas de mayor tamaño el uso de comités monitores sí implica una mayor generación de valor, efecto por otra parte ausente en las empresas de menor dimensión. Las estimaciones revelan, en el grupo de mayor tamaño, una relación positiva y significativa entre el valor, el número de comités y el número de comités de tipo monitor. Además, la inclusión de información sobre comités supervisores en las regresiones implica que la relación entre la independencia del consejo y el valor se torna positiva y significativa en el grupo de empresas de mayor dimensión. En general estos resultados corroboran nuestra suposición de que en entornos empresariales con mayores necesidades de supervisión el uso intensivo de este tipo de comités contribuye a la creación de valor.

Por otra parte observamos que la independencia de los comités en general, y de los comités de tipo supervisor en particular, no está estadísticamente relacionada con la creación de valor sea cual sea el tamaño empresarial. Este resultado confirma la evidencia obtenida en la sección anterior en cuanto no se detectó interrelación alguna entre independencia de comités supervisores y valor para la estimación efectuada sobre la totalidad del conjunto muestral.

Por último, realizamos un test de robustez de nuestro modelo econométrico, ya que analizamos la relación entre el uso de comités y el valor

de la empresa utilizando un panel dinámico con el método de momentos generalizado (*GMM system estimator*). Este método ha sido ampliamente utilizado en estudios anteriores para analizar la relación entre diferentes instrumentos de gobierno corporativo y el valor de la empresa. Usamos el método de momentos generalizados con el objetivo de controlar el posible sesgo en los resultados debido a la heterogeneidad no observada, a la endogeneidad corriente, y a la endogeneidad dinámica. La precisión de este método, por otra parte, depende de la selección de los instrumentos más adecuados para el control de esta endogeneidad. En el análisis de robustez seguimos el método propuesto por Wintoki et al. (2012) estimando la siguiente ecuación referida al valor:

$$Q_{it} = \alpha + \beta_0 LagQ_{it} + \beta_{1A} OUTSIDERS_{it} + \beta_{1B} OUTSIDERSCOM_{it} + \beta_2 LNBOARDSIZE_{it} + \beta_3 INTERLOCKING_{it} + \beta_4 WEALTHDELTA_{it} + \beta_5 LEVERAGE_{it} + \beta_6 OWNERSHIP_{it} + \beta_7 CHAIRMAN_{it} + \beta_8 LNASSETS_{it} + \beta_{9\text{-}17} INDUSTRY_{it} + \beta_{18\text{-}28} YEARDUMMY_{it} + \nu_{i.} + \varepsilon_{it} \quad (3)$$

Al igual que en nuestro estudio anterior, primero estimamos una ecuación de referencia donde la información sobre comités (OUTSIDERSCOM) no está incluida en el análisis. Al igual que en ocasiones precedentes, no encontramos, en la ecuación de referencia, una relación significativa entre la independencia del consejo de administración y el valor de la empresa. Para comprobar si el uso intensivo de comités conlleva un incremento de valor, extendemos la ecuación de referencia para incluir (de forma secuencial) la siguiente información: (1) el uso de comités, (2) la independencia de comités, (3) la participación del consejero delegado en comités, y (4) el tamaño de comités. Esta información es incluida de forma multiplicativa, de manera que la variable OUTSIDERSCOM es el producto de OUTSIDERS por una variable binaria que toma el valor uno cuando la empresa utiliza (1) un mayor numero de

comités que la mediana de la muestra, (2) comités cuyo nivel medio de independencia es mayor que la mediana de la muestra, (3) comités donde en promedio el consejero delegado participa en mayor medida, y (4) comités de mayor tamaño medio que la empresa mediana de la muestra.

En general nuestros resultados de la ecuación de valor usando el método de momentos generalizados muestran que las variables que miden las características de la empresa y el mercado donde opera (resultados del periodo anterior, índice de apalancamiento, activos totales y dummies de industria y año) tienen una mayor repercusión en el valor de la empresa que las variables que miden el gobierno corporativo (nivel de independencia, uso de comités, interconexión de miembros del consejo, dualidad, remuneración al consejero delegado o concentración de propiedad) que mantienen ausencia de relación con la variable dependiente.

Esta falta de significación estadística no implica necesariamente una falta de relación económica. Como hemos indicado anteriormente, puede deberse a varios factores, entre ellos la especificación del modelo econométrico utilizado. En concreto, el uso de un modelo dinámico "*Two-Step GMM system estimator*" tiene –a nuestro parecer- dos desventajas: la primera de ellas se refiere a la dificultad de encontrar instrumentos adecuados para controlar la endogeneidad; la segunda se refiere a la propia metodología de datos de panel. Los modelos econométricos de panel utilizan para efectuar sus estimaciones desviaciones con respecto a la media aritmética de cada empresa o primeras diferencias. Para variables que varían muy poco a lo largo del tiempo (como es el caso de aquellas que miden el uso y composición de comités y consejos de administración), las variables transformadas tomarán el valor cero en la mayoría de los casos. Esta escasa variabilidad puede conducir a estimaciones imprecisas y, en definitiva, a perder la dimensión temporal de la

estructura de panel.

Con respecto a los instrumentos, y aunque no existe un único criterio para evaluar su idoneidad, los valores obtenidos en los tests de Sargan y Hansen (*p-values* próximos a cero) no permiten rechazar con claridad la hipótesis de endogeneidad de nuestros instrumentos. Esta desventaja, junto con la imposibilidad de controlar el sesgo de autoselección hacen que el modelo de Heckman sea el método econométrico al que hemos otorgado prioridad en nuestro análisis principal.

La independencia del consejo y el pago de incentivos al consejero delegado como instrumentos alternativos de gobierno corporativo.

En el estudio de la relación entre la independencia del consejo de administración y el pago de incentivos al consejero delegado, usamos dos variables que ya han sido previamente utilizadas en la literatura con cierta profusión: la proporción de consejeros que no son miembros del equipo directivo respecto al numero total de consejeros como medida de independencia del consejo, y el pago de acciones y opciones sobre acciones como medida de la retribución incentivada.

A su vez, en el análisis de la retribución incentivada al consejero delegado, centraremos nuestra atención en tres aspectos fundamentales: la existencia, la proporción y el importe total de dicha retribución. La existencia se refiere a si el consejero delegado ha recibido o no ha recibido en un determinado año remuneración en forma de acciones y opciones sobre acciones; la proporción se refiere a la proporción de la remuneración total del consejero delegado que está ligada a acciones y, por último, el importe se

refiere al montante total de acciones y opciones sobre acciones que el consejero delegado recibe cada año.

Esta diferenciación se debe a que el uso de remuneración ligada a valores de mercado (como acciones y opciones sobre acciones) no está tan extendido en Europa como en EE.UU., constituyendo un porcentaje sensiblemente menor de la remuneración total del consejero delegado. Además, no todas las empresas europeas utilizan este tipo de remuneración, y aquellas que lo hacen no la conceden cada año de forma sistemática. El sesgo de autoselección surge claramente en esta investigación al elegir las empresas inicialmente si utilizar o no incentivos en forma de acciones u opciones sobre acciones.

Es por ello que planteamos de nuevo un sistema de ecuaciones simultáneas siguiendo el modelo de Heckman, donde la remuneración incentivada del consejero delegado depende de la composición del consejo de administración (que es quien en última instancia aprueba dicha remuneración), junto con características de la empresa, del consejero delegado, de su gobierno corporativo, y de los mercados donde opera.

Las regresiones correspondientes a la ecuación de resultados y de selección características del modelo de Heckman quedan así definidas:

$$INCENTIVE_{it} = \delta_0 + \delta_1 OUTSIDERS_{it} + \delta_2 AGE_{it} + \delta_3 CEOWEALTH_{it} + \delta_4 TIMEINROLE_{it} + \delta_5 CEOOWNERSHIP_{it} + \delta_6 LNASSETS_{it} + \delta_7 VOLATILITY_{it} + \delta_8 YEAR_{it} + \rho\sigma_1\lambda_{it}(Z_{it}) + \varepsilon_{it} \quad (4)$$

$$Pr(INCENTIVE_{it}=1)=\varphi_0+\varphi_1 OUTSIDERS_{it}+\varphi_2 LNASSETS_{it}+\varphi_3 OWNERSHIP_{it}+\varphi_4 LEVERAGE_{it}+\varphi_5 TIMEINROLE_{it}+\varphi_6 Q_{it}+\varphi_7 INDUSTRY_{it}+\varphi_8 BOADSIZE_{it}+\varphi_9 MD_{it}+\varphi_{10} INTERLOCKING_{it}+\varphi_{11} YEAR_{it}+\varphi_{12} COUNTRY_{it}+\nu_{it} \quad (5)$$

Puesto que la remuneración incentivada no se otorga de forma

automática en Europa, utilizamos tres variables distintas para nuestras tres medidas de incentivos. La existencia de incentivos queda expresada a través de la variable binaria (INCENTIVE=1) que adopta el valor uno cuando se observa una remuneración incentivada positiva. La intensidad de incentivos se mide mediante la variable EQUITY RATIO definida como el cociente entre el importe de la remuneración incentivada y la remuneración total anual. Por último, el nivel de incentivos (LNEQUITY) se refiere al importe total otorgado de acciones y opciones sobre acciones, que incluimos en nuestras ecuaciones a través de su transformado logarítmico. Las variables que expresen el nivel y la proporción de incentivos las incluimos de forma alternativa como variable dependiente en la primera ecuación (ecuación 4), mientras que la variable binaria (INCENTIVE=1) la utilizamos como variable dependiente en la ecuación de selección (ecuación 5).

La primera de las ecuaciones de nuestro sistema (ecuación 4) es la ecuación que concita nuestro mayor interés (*outcome equation* o ecuación de resultados). Como variables explicativas del nivel de utilización de incentivos se incluyen el grado de independencia del consejo (OUTSIDERS), cierta información acerca del consejero delegado y, por último, características de la empresa y del mercado donde ésta opera. Respecto al consejero delegado se tiene en cuenta su edad (AGE), la riqueza mantenida en acciones y opciones de la empresa (CEOWEALTH), los años que lleva desempeñando su función (TIMEINROLE) y la proporción de acciones de la empresa en su poder (CEOOWNERSHIP). El resto de variables son el tamaño de la empresa (LNASSETS), la volatilidad de las acciones de la empresa (VOLATILITY), el efecto temporal (YEAR), y el término que corrige el sesgo de autoselección, $\rho\sigma_1\lambda_{it}(Z_{it})$. El último término ε_{it} es el término de error, con distribución normal estandarizada.

En la ecuación de selección (ecuación 5) estimamos la influencia de ciertos factores sobre la decisión de remunerar al consejero delegado con instrumentos ligados a la evolución del valor. La variable dependiente toma el valor uno si se otorga al consejero delegado este tipo de remuneración y cero en caso contrario. Como variables explicativas incluimos, junto con la independencia del consejo, el tamaño de la empresa (LNASSETS), la concentración de propiedad (OWNERSHIP), el índice de apalancamiento (LEVERAGE), los años que lleva el consejero delegado en el puesto (TIMEINROLE), las oportunidades de crecimiento de la empresa (Q), el tamaño del consejo (BOARDSIZE), el número de posiciones adicionales del consejero delegado en consejos de administración de empresas cotizadas (INTERLOCKING), variables binarias de industria (INDUSTRY), año (YEAR) y país (COUNTRY), y el término de error v_{it}.

Los resultados de estas regresiones se presentan de forma detallada en la sección de resultados del capítulo 3 (capítulo 3, sección 5). De forma general podemos decir que observamos una relación positiva y significativa entre la independencia del consejo y el pago de incentivos. Esta relación es observable tanto en la ecuación de selección (ecuación 2) como en la ecuación de resultados (ecuación 1), y en este último caso tanto si incluimos la intensidad de incentivos como variable dependiente como si incluimos el nivel de incentivos. El signo positivo del coeficiente φ_1 en la ecuación de selección indica que aquellas empresas con consejos más independientes son más proclives a utilizar remuneración incentivada. Por su parte, el signo positivo y significativo del coeficiente δ_1 en la ecuación de resultados apoya la hipótesis de que, una vez decidida la concesión de incentivos, aquellas empresas que cuentan con una mayor proporción de consejeros no ejecutivos, otorgan mayores incentivos en la remuneración del consejero delegado. La

magnitud del coeficiente δ_1 en la ecuación de resultados indica que un aumento de un 1% en la proporción de consejeros no ejecutivos implica un aumento del 0.194% en la proporción de incentivos en la remuneración al consejero delegado, así como de un aumento del nivel absoluto de dichos incentivos. Toda esta evidencia sugiere que aquellas empresas que otorgan incentivos en forma de acciones y opciones sobre acciones usan este instrumento como forma de gobierno de forma complementaria a la composición (independencia) del consejo de administración.

Además de las estimaciones planteadas de las ecuaciones 1 y 2 hemos probado alternativamente a eliminar la variables que aproximan las necesidades de asesoría y control con objeto de comprobar si el impacto ”bruto” de la independencia del consejo sobre los incentivos se mantiene en dicha especificación. Del mismo modo también se ha probado a eliminar la variable *outsiders* y analizar el impacto bruto de las variables que miden las necesidades de asesoría y control. Aunque por supuesto estas comprobaciones no sirven para comparar los diferentes coeficientes, sí nos permite concluir que la relación positiva entre las variables que aproximan las necesidades de supervisión y el valor de la empresa es robusta y consistente. Así, observamos que la probabilidad de que el consejero delegado reciba remuneración ligada a la evolución de las acciones está positivamente relacionada con el tamaño de la empresa (LNASSETS) y con la interconexión de los consejeros (INTERLOCKING). Por el contrario, la relación es negativa con la concentración de propiedad (OWNERSHIP), el índice de apalancamiento (LEVERAGE), y la dispersión del poder ejecutivo (MD).

Como aproximación de las necesidades de asesoramiento incluimos, además de las variables binarias de industria, la variable Q que refleja las oportunidades de crecimiento de la empresa. En línea con nuestras

expectativas esta relación es positiva y significativa.

En general nuestros resultados nos permiten afirmar que los consejeros delegados que trabajan en empresas con consejos más independientes tienen una mayor propensión a recibir incentivos en forma de acciones y opciones sobre acciones. Además, aquellos consejeros delegados que reciben éstos paquetes de retribución incentivada suelen recibir una proporción mayor de su paga en incentivos cuanto mayor sea la independencia del consejo. La relación de complementariedad entre ambos instrumentos de gobierno se sitúa en la línea de la propuesta de Bebchuk, Fried y Walker (2002), que sugieren que consejos de administración más independientes, debieran utilizar de forma intensiva el pago de incentivos a los consejeros delegados, para evitar la extracción de rentas privadas. Según estos autores la independencia (real) del consejo de administración es un elemento relevante para evitar el atrincheramiento del consejero delegado, puesto que aquellos consejeros delegados con suficiente poder para influir en el diseño de sus paquetes retributivos usarán dicha influencia para obtener mayores niveles de compensación y un menor volumen de remuneración incentivada. Al ser los consejeros delegados individuos adversos al riesgo, prefieren, *ceteris paribus*, compensación menos volátil y, por lo tanto, con una menor vinculación a los resultados empresariales. Evitando el atrincheramiento se minimiza la extracción de rentas privadas a través del paquete retributivo.

Por el contrario, la hipótesis planteada por los modelos de agencia, que viene a sugerir que los propietarios pueden sustituir el control directo al consejero por un paquete retributivo con incentivos, no es avalada por los resultados empíricos, puesto que en ese caso, deberíamos encontrar una relación de sustitución entre ambos instrumentos, relación no refrendada por nuestro análisis empírico.

Por último, se han llevado a cabo nuevas estimaciones con objeto de comprobar la robustez de los resultados. El primero de los análisis de sensibilidad consistió en partir la muestra en diferentes sub-muestras con objeto de comprobar si los resultados difieren para empresas de diferentes características o que operan en marcos institucionales diversos. Repetimos pues el modelo propuesto en las ecuaciones (1) y (2) dividiendo la muestra de las siguientes maneras: (1) por países, analizando de forma separada el Reino Unido del resto de países, (2) por industrias, separando las empresas pertenecientes al sector de las nuevas tecnologías (tecnologías de la información, electrónica y software) del resto de industrias, (3) por tamaño, analizando de forma separada las empresas en función de su dimensión, y finalmente (4) por resultados, comprobando si las empresas con mejores resultados en términos de beneficios operativos (*operating profit*), rendimientos de acciones (*return on equity*) o rendimientos de los activos (*return on assets*), utilizan diferentes combinaciones de instrumentos de gobierno corporativo. En un segundo análisis de robustez comparamos los resultados del modelo de regresión de Heckman con aquellos obtenidos en un análisis de ecuaciones simultáneas que no incluye el sesgo de selección, corroborando la importancia de incluir la corrección de dicho sesgo.

En el análisis por países, los resultados sugieren que la complementariedad de mecanismos no depende del marco legal e institucional, y que se da tanto en entornos donde el gobierno corporativo se centra en la protección de accionistas (como es el caso de Reino Unido) como en entornos donde el consejo debe velar por el resto de *stakeholders* o agentes económicos con influencia en la empresa (como es el caso de la Europa Continental).

Nuestros resultados están en línea con los de Ryan y Wiggings

(2004), Davila y Peñalva (2006) y Coles, Lemmon y Wang, (2008), que encuentran una relación positiva usando datos de EE.UU.

También comprobamos que la complementariedad se da tanto en empresas en sectores tradicionales como en las empresas pertenecientes a sectores tecnológicos, a pesar de que el pago de acciones y opciones sobre acciones está mucho más extendido en el primero de los grupos. Además también observamos que una vez que se decide conceder incentivos los consejeros delegados que trabajan en empresas tradicionales reciben una mayor proporción de su remuneración ligada al mercado. Por su parte, la relación positiva entre la intensidad de incentivos y la independencia del consejo es de mayor magnitud en empresas con propiedad más concentrada, con consejos de menor tamaño, y con mejores resultados empresariales.

Por último, y para poner a prueba los modelos de captura de Bebchuk y Fried (2004), llevamos a cabo un análisis de ecuaciones simultáneas incluyendo como variables dependientes no sólo los incentivos sino también el nivel de compensación directa, de compensación total, y la proporción que representan los *bonus* en la compensación directa. Los resultados muestran que las empresas con consejos de administración más independientes pagan menos retribución a sus consejeros delegados (tanto retribución directa como retribución total), aunque los consejeros delegados reciben en proporción menos cantidad de *bonus*. Sin embargo, los consejeros delegados que reciben acciones y opciones sobre acciones obtienen una mayor proporción de su remuneración total de esta forma.

De estos resultados de esta tesis podemos extraer la conclusión de que la independencia del consejo de administración por sí sola no tiene por qué contribuir inexorablemente a incrementar el valor de la empresa, aunque sin

duda existe situaciones en las que una determinada combinación de elementos de gobierno corporativo puede potenciar los efectos positivos de la independencia del consejo sobre el valor de la empresa. Así, hemos podido corroborar que la independencia del consejo, unida a la existencia de comités asesores dentro del mismo es capaz de influir positivamente en la creación de valor en la empresa. De la misma manera, en la segunda investigación empírica mostramos que las empresas que combinan de forma complementaria la independencia del consejo con el pago de incentivos en forma de acciones y opciones sobre acciones al consejero delegado, son empresas con mayor rentabilidad y mejores resultados.

Los resultados de nuestra investigación además tienen una aplicación empírica relevante en el momento actual. Las carencias en los sistemas de gobierno corporativo de grandes empresas en EE.UU. y Europa, junto con deficiencias en los sistemas externos de control parecen haber precipitado y agudizado la actual crisis económica internacional. En este contexto, la utilización conjunta de diversos instrumentos de gobierno corporativo al alcance de las empresas puede mejorar la eficiencia así como eludir los procesos de extracción de rentas privadas que en ellas tienen lugar.

CHAPTER ONE.

CORPORATE GOVERNANCE IN EUROPE.

AN OVERVIEW

1. DEFINITIONS OF CORPORATE GOVERNANCE

Although there is currently a consensus among the business community, politicians and the general public about the need for sound corporate governance, the definition of what constitutes good governance practices varies around the world and business communities. A generally accepted definition of Corporate Governance is that of the OECD (2004), which states "The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs. By doing this, it also provides the structure through which the company's objectives are set, and the means of attaining those objectives and monitoring performance."

This definition is very closely related to that from the UK Corporate Governance Code of 1994, elaborated by the Cadbury committee, which states that Corporate Governance is "*the system by which companies are directed and controlled*". Studies on Corporate Governance, thus, analyze how power and influence over decision making is distributed within the corporation (Aguilera and Jackson, 2010).

The main difference between the existing corporate governance frameworks (which provide the set of regulations, recommendations, and business conditions where firms design their corporate governance systems), derives from the alternative distributions of ownership and control within corporations. Broadly speaking, existing corporate governance frameworks in the world can be classified into two differentiated groups, depending on who is considered the residual claimant of the company assets (Salas Fumas, 2002): Shareholder based systems and stakeholders based systems.

The shareholder-based systems focus on shareholders as residual claimants of the company assets. In stakeholders-based systems, corporate governance frameworks extend their protection to other company stakeholders, like suppliers and employees, who make firm specific investments that are sunk costs, and should be therefore treated in the same way as shareholders. Two clear examples of firm specific investments are the investments in firm specific human capital- like learning a computer software specific to a company- made by company workers, and machinery investment to produce firm supplies made by contractual suppliers. Those are non-marketable costs that cannot be recovered in the case of company failure. The differences between shareholder-based and stakeholder-based approaches to corporate governance are not only theoretical but have a clear impact on the practical implementation of corporate governance practices in different countries. As Andrés and Santamaría (2010) point out "*the concept of corporate governance provides the framework for the solutions of corporate governance problems*".

1.1 The shareholder-based approach

In a shareholder based system, the focus of the firm corporate governance is to protect the rights of shareholders (considered the residual claimants of listed corporations) from expropriation from managers, who have the right to control the corporation. A shareholder focused corporate governance system is very well characterized by the definition of Corporate Governance by Schleifer and Vishny (1997) "*Corporate Governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment*". These authors justify their shareholder approach to corporate governance as shareholders make sunken investments

in their company, and have to reap the returns from their investments by being residual claimants.

From an economic point of view, the role of the firm corporate governance system in a shareholder-based approach is primarily to solve plausible agency problems that might arise from the separation of ownership and control (Jensen and Meckling, 1976). Different governance instruments are set to prevent rent extracting from managers at the expense of shareholders. These systems rely heavily on the characterization of a corporation as a quasi-public organization in which a strong management team controls the organization and ownership is dispersed among small investors (Berle and Means, 1932). In this theoretical setting, ownership and control do not intersect (as for example, in cases when CEO and management teams do own a part of the corporation), and each investor is so small relatively to others that conflicts of interest between minority and majority shareholders are inexistent. Berle and Means, in their renowned book argued that (in US) a clear separation had developed between shareholders and managers, with shareholders no longer having any real voice in how the corporation is run and with management only theoretically accountable to the board of directors. This type of business environment has been characteristic of Anglo-Saxon economies during the 60s, 70, and 80s, until the wave of mergers and acquisitions of the late 80s in US, and the extension of executive compensation in the form of company stock (Holmstrom and Kaplan, 2001), changed the landscape of US corporate sector: the wave of mergers and acquisitions lead to more concentrated ownership and equity linked compensation burled the strict separation of ownership and control.

The shareholder oriented approach has been widely accepted and promoted, since a strand of the literature (which was started by La Porta,

Lopez-de-Silanes, Shleifer and Vishny, 1998) states that common law countries, where the shareholder-based approach is prevalent, provide better protection to minority shareholders. In their article, La Porta et al. (1998) divide countries into two groups- common law countries and civil law countries- according to their legal origin, and compare investor protection between both groups. They suggest that the common law system provides better investor protection than the civil law system and therefore it is better at promoting the development of capital markets and economic growth. In a subsequent article, La Porta et al. (2002) show that corporate valuations in the common law countries are significantly higher than corporate valuations in the civil law countries.

TABLE 1. LEGAL ORIGINS.

In this table we present the countries that cover our study, classified by their legal origins, according to La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)

English Origin	French Origin	Skandinavian Origin	German Origin
Ireland	Belgium	Denmark	Austria
UK	France	Finland	Germany
	Greece	Sweden	
	Italy		
	Luxembourg		
	Netherlands		
	Portugal		
	Spain		

As a result, this shareholder focused approach has been promoted around the world in the last decade, as international regulators have taken conscious steps to make capital markets more shareholder-oriented. This is the case, even when in other business environments, where ownership is concentrated and management ownership is significant, conflicts of interests

might arise between minority and majority shareholders, between owners and employers or suppliers, or between different types of finance suppliers (debtors and shareholders). In those cases, a stake holder approach could be more efficient, due to its broader reach.

1.2 The stakeholder-based approach

The shareholder-based system of corporate governance, although prevalent in US and other Anglo-Saxon countries like UK, is not the common norm in the rest of the world (Germany, Japan, etc.), where stakeholder-focus systems are in place (Goergen, 2007). The stake holder based system is prevalent in countries like Germany and Japan. Germany, with its codetermination system is the paramount of the stakeholder based approach, while Japanese model reflects great commitment to employee welfare (Jackson, 2005; Jackson and Moerke, 2005). In a stakeholder-focused system the protection is extended to other stakeholders in the company, such as employees and suppliers, who also make firm specific investments and have to be protected from plausible rent extracting from managers who control the company. For example, employers invest in firm specific human capital that could be lost in the case of company default.

Relevant authors have provided a definition of corporate governance from a stakeholder based approach. For example Gillan and Starks (1998) define corporate governance as "*the system of laws, rules, and factors that control operations at a company*"; Fernandez, Gomez, and Fernandez (1998) define the corporate governance system as "*a complete set of relations and institutional agreements through which companies are directed and controlled*"; Davis (2005) definition of Corporate Governance refers to *"the structures, processes, and institutions within and around organizations that*

allocate power and resource control among participants"; and Brecht, Bolton and Roell (2002) argue that "*Corporate Governance is concerned with the resolution of collective action problems among dispersed investors and the reconciliation of conflicts of interest between various corporate claimholders*".

This stake holder based approach rests firmly on Grossman and Hart (1986) representation of the firm as a set of incomplete contracts between different agents, such as owners, managers, suppliers of finance and inputs, workers and even the communities where the firm is allocated. The distribution of the bargaining power among stakeholders is what determines who the residual claimant in a corporation is. Corporate governance is set to prevent that groups with more bargaining power extract rents from groups with less bargaining power in the case of an incomplete contract. In that spirit, Zingales (1998) defines corporate governance as *"the set of constraints that shapes the ex-post bargaining over the quasi rents generated in the course of a relationship*", and Azofra (2005) refers to "*the set of institutional and organizational mechanisms that allow to balance management "discretionarily" with stakeholder's rights protection"*.

The stakeholder-based approach is prevalent in Continental Europe, in common law countries (See Table 1) and in countries with a two tier board structure, like Germany, Austria and Denmark. Unlike US and UK, characterized by relatively large and liquid capital markets, dispersion of ownership and a buoyant (hostile) takeover market, most Continental Europe companies –as well as most companies from the rest of the world- have large shareholders and go public much later than their Anglo-American counterparts (Goergen and Renneboog, 2003). Large shareholders tend to be families, other companies, banks and the government (Correia da Silva, Goergen and Renneboog, 2004), who have an interest to closely monitor managers. This close monitoring

should be beneficial to other stakeholders, but this concentration of control comes at a cost. Under the stakeholder approach conflicts of interests do not just emerge between managers and shareholders, but also between minority and majority shareholders, between employees and shareholders, between debt holders and shareholders etc. Besides, in Continental Europe firms do not experience a separation of ownership and control after they are listed in the stock market. Initial shareholders usually keep a majority control after they go public, and it is common that CEOs and managers hold a large stake of company stocks. The stakeholder approach is thus, more suitable to adapt to the characteristics of the corporate governance sector in Continental Europe.

TABLE 2. DEFINITIONS OF CORPORATE GOVERNANCE

In this table we present a short description of the key definitions of corporate governance provided in section 1, classified by source of the definitions (institutional definitions, versus academic definitions) and these later by their conceptual approach (stakeholder versus shareholder approach)

Author	Definition
Institutional definitions	
Cadbury Committee (1992)	The system by which companies are directed and controlled
OECD Principles (1999)	[…] a set of relations between a company's management, its board, its shareholders and other stakeholders. Corporate Governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined
OECD Principles (2004)	[…] the corporate governance framework should protect and facilitate the exercise of shareholders' rights. The corporate governance framework should recognize the rights of stakeholders established by law or through mutual agreements and encourage active co-operation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financial sound enterprises
Green Paper: The EU Corporate	A set or relationships between a company's management, its board, its shareholders and its other stakeholders

Governance Framework (2011)	
European Association of Security Dealers EASD CG principles and recommendations	[…] corporate governing organs should be accountable to the shareholders, the more so since they are the residual bearers of risk of the company as owners of its equity [….]
Academic definitions	
Shareholder based approach	
Schleifer and Vishny (1997)	Corporate Governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment
Aguilera & Jackson (2010)	Corporate Governance may be defined as the study of power and influence over decision making within the corporation
Andres Alonso and Santamaría Mariscal (2010)	The concept of corporate governance provides the framework for the solutions of corporate governance problems
Stakeholder based approach	
Gillan & Starks (1998)	The system of laws, rules, and factors that control operations at a company",
Tirole (2001)	A good governance structure is then one that selects the most able managers and makes them accountable to investors
Fernandez, Gomez and Fernandez (1998)	A complete set of relations and institutional agreements through which companies are directed and controlled
Davis (2005)	The structures, processes, and institutions within and around organizations that allocate power and resource control among participants
Brecht , Bolton and Roell (2002)	Corporate governance is concerned with the resolution of collective action problems among dispersed investors and the reconciliation of conflicts of interest between various corporate claimholder
Zingales (1998)	The set of constraints that shapes the ex-post bargaining over the quasi rents generated in the course of a relationship
Azofra (2005)	The set of institutional and organizational mechanisms that allow balancing management "discretionarily" with stakeholder's rights protection.

1.3 Towards a shareholder-based approach to Corporate Governance

From an economic point of view, the type of shareholder structure is the key factor in determining which of the both approaches to corporate governance is beneficial. One could argue that in business environments characterized by liquid capital markets, dispersed ownership, and small collapse of ownership and control rights – typical of Anglo-Saxon countries- the shareholder focus can be beneficial, as it stresses the monitoring role of corporate governance structures over the controlling management team, while in the rest of the world (with concentrated ownership, less liquid markets, and management ownership), stakeholder-based systems are prevalent.

On the other hand, Roe (2003) argues that it is not economic conditions, but rather politics the driving force behind the choice of corporate governance systems. Roe argues that left-wing governments favor employees over investors, and that the greater employee power tends to exacerbate certain types of manager-shareholder conflicts, such as the pursuit of growth in size versus firm profitability. Managers have an incentive to pursue firm growth over profitability, as this increases its status, power and income. By the same token employers prefer to work for bigger firms where higher wages and better working conditions are common. In these settings shareholders tend to accumulate larger stakes to reduce managerial discretion, and prevent excess growth. On the other hand, right-wing governments encourage ownership dispersion, by introducing legislation that reduces conflicts of interest between managers and owners. In an empirical test of his theory, he performs regressions on data on firms and governments from over 16 OECD countries, finding that politics has explanatory power over and above La Porta et al (1998) legal origin of countries.

Over the last decade, we have witnessed a worldwide shift towards a market based approach to Corporate Governance, that puts the emphasis on the protection of shareholders rights at the stake of other stakeholders of the firm (Hansmann and Kraakman, 2001; Brecht et al., 2002). This is the case, as recent business failures have put in evidence the need to protect shareholder value. Advocates of a shareholder based approach argue that, under this type of governance system, firms have more access to funds, and that it provides better protection to minority shareholders and higher corporate valuations.

As a result, there is nowadays an institutional awareness about the need to protect shareholder value. The shift towards a shareholder based approach can be observed very clearly from the definition and objectives provided from the OECD Principles of Corporate Governance, in which most recent Corporate Governance developments worldwide (especially in Europe and US) are based.

The OECD Principles of Corporate Governance from the year 1999 stated that *"Corporate Governance involves a set of relations between a company's management, its board, its shareholders and other stakeholders. Corporate Governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined".* However in the New 2004 Principles of Corporate Governance (issued in April 2004), the definition shifts clearly towards a shareholder based approach, and among its principles, it states "*the corporate governance framework should protect and facilitate the exercise of shareholders' rights*"[16]. With respect to other stakeholders, the same Principles state that *"The corporate governance framework should recognize the rights of stakeholders established by law or through mutual agreements and encourage*

[16] See OECD (2004), pp. 18

active co-operation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financial sound enterprises."[17].

In this later definition, shareholders are meant to be the residuals claimants in case of incomplete contracting within the corporation. Other stakeholders should have their rights protected through law, and the design of business contracts. In case of incomplete contracts, it will be the shareholders who are the residual claimants, and the firm corporate governance system is set to protect their residual right to control.

The European Union follows exactly the OECD definition of corporate governance, as "the system by which companies are directed and controlled and as a set or relationships between a company's management, its board, its shareholders and its other stakeholders"[18].

The European Association of Security Dealers (AADS) has clearly adopted a shareholder approach to Corporate Governance. The European Association of Security Dealers (EASD) states in its "Corporate Governance Principles and Recommendations" (May 2000) [19] the following: "[…] *governing organs of companies cannot be held accountable to all stakeholders in the company- shareholders, staff, clients, suppliers credit providers, as well as the communities and the environment in which they operate- lest accountability be fragmented, subjected to contradictory aims and thereby diluted. The Committee therefore espoused the view that corporate governing organs should be accountable to shareholders, the more so since they are the residual bearers for risk of the company as owners of its equity*, [….]"

[17] See OECD (2004), pp. 21
[18] See European Commission (2011)
[19] See EADS (2000)

Despite this prevalence of a shareholder based approach, it is an open research question whether this shareholder based approach outperforms stakeholder systems of corporate governance. Although there is academic evidence (La Porta et al., 1998) that common law countries (where the shareholder based approach is prevalent) provide better shareholder protection and their companies enjoy higher market valuation, there is currently an strand of the literature that clearly challenges this view (Goergen, 2007; Hung, 2011). Some researchers claim that this prevalence is due to a lack of research on corporate governance on stakeholder based countries (Goergen and Renneboog, 2003) and that previous results might not be extrapolated to institutional setting outside the Anglo-Saxon model.

One of the key advantages of studying the European corporate governance system is that both types of governance structures coexist within the same economic union. This constitutes a unique field to analyze corporate governance and its impact on firm value. Besides, the European framework can provide stylized facts about corporate governance mechanism that overcome institutional constraints and have a global resemblance.

2. INSTRUMENTS OF CORPORATE GOVERNANCE

How companies are governed and controlled depends on the combination of the different instruments that characterize firms´ corporate governance. Broadly speaking, these instruments can be classified into internal and external to the firm (Denis and McConnel, 2003). The internal control mechanisms are the board of directors, managerial compensation, and ownership structure. The external control mechanisms are the legal and

regulatory environment, the takeover market for control, and the product market competition. Firms can, to a large extent, design their own internal governance systems, while the external instruments of corporate governance are not at reach of firms´ owners, but serve as discipline devices and configure the structure of the formal control within the organizations.

There is an extended literature on the use of each of those instruments and its impact on firm value. In what follows I present a brief description of each of the instruments and its relations with the other instruments within the system.

2.1 Board of directors

The board of directors is arguably the most important internal corporate governance instrument. It holds the formal authority to adopt or put a veto on every decision of the management team, and it has the ultimate responsibility to monitor the management team to prevent rent extracting.

Holding formal control rights – as it does- is not alone enough for the board to accomplish its duty efficiently. Board members also need to have the correct incentives and the necessary information to perform efficiently their supervisory and advisory functions. The composition of the board (the number of board members, the characteristics of each of them and the internal distribution of tasks in committees) determines to a large extent the exchange of information and the distribution of power between insiders and outsiders.

Due to its importance for firm value, the question on what constitutes a good board of directors has attracted the interest of academic and practitioners since Smith (1776) and Berle & Means (1932)[20]. Seminal

[20] See Levrau and Van den Berghe (2004), Perry and Shivdasani (2005), Andres and Vallelado (2008) and Finegold and Benson (2007) for current research

studies on board composition focused on the monitoring role of boards[21]. They suggested increasing the degree of board independence to solve plausible conflicts between managers and owners, and reducing board size to avoid inefficiencies due to free riding and lack of control. These suggestions have been widely implemented, even when there is no consensus in the literature about the benefits of smaller and more independent boards (Wintoki, Linck and Netter, 2012; Hermalin and Weisbach, 2003).

This apparently lack of empirical relation between board composition and firm value has been explained by the trade-off in information transmission (Adams and Ferreira, 2007); by the fact that board composition is endogenously determined (Raheja, 2005; Harris and Raviv, 2008); by the high costs for outsiders to obtain the necessary information to monitor and advise efficiently (Boone et al, 2007; Coles, Daniel and Naveen, 2008; Link, Netter and Yang, 2008); by the role of the CEO to control de information available to board members (Song and Takor, 2006) and even by the econometric techniques used in previous empirical studies (Wintoki et al, 2012)[22].

As a result a second generation of studies on board of directors incorporates the advisory function to its models, and analyzes in which circumstances each function is prevalent (Coles et al 2008; Lasfer, 2006; Adams and Ferreira, 2007; Boone et al, 2007; Drymiotes, 2007; Markarian and Parbonetti, 2007; Cheng, 2008; Link et al, 2008, Andres and Vallelado, 2008; Andres and Rodríguez, 2011). The internal functioning of the board is as important as the aggregate independence level to understand how the board

[21] See Jensen and Meckling (1976), Lipton and Lorsch (1992), Jensen (1993), John and Senbet (1998)

[22] Wintoki et al (2012) present an extended literature review on the papers that analyze the impact of board independence on firm value, noting the lack of consensus in the literature, and providing a plausible explanation for this lack of consensus, based on the econometric techniques used in the analysis. They argue that the apparently contradictory results might be driven by not taking into account the dynamic aspect of the board/performance relation. They argue that once past performance, simultaneity and unobserved heterogeneity are controlled for, there is no causal relation between board structure and firm performance, which is in sharp contrast to the findings of some earlier studies

performs its functions. Current research -like ours in chapter two - deals with the internal functioning of the board in committees. Faleye, Hoitash and Hoitash (2011b) find that the participation of outsiders in advising committees allows them a better understanding of the firm, while the quality of monitoring improves with the independence of monitoring committees (Faleye et al., 2011a; Conyon and He, 2004). Evidence suggests that the work in committees facilitates the delegation of authority (Reeb and Upadhyay, 2010) and helps to mitigate coordination and free riding problems which can arise in the case of larger and more independent boards.

The personal characteristics and incentives of individual directors are also relevant. Hiring directors who hold board positions in many companies might improve firm performance, as they bring expertise, know-how and relations. Besides, numerous board positions signal director's quality (Fich, 2005; Fama and Jensen, 1983; Gilson 1990; Kaplan and Reishus, 1990; Vafeas, 1999; Coles and Hoi, 2003) that can yield reputational gains to the firms. By contrast, busy directors might be detrimental to firm performance (Fich and Shivdasani, 2006; Core el at 2006; Prinz 2006), as they might lack the time and incentives to commit to each individual board position, and they might be more prone to entrenchment (Loderer and Peyer, 2002; Non and Franses, 2007).

Current research on board composition and performance stresses the importance of features such as information transmission, trust and cooperation among board members, delegation or authority, consensus in the decision making and internal distribution of power (Adams and Ferreira, 2007; Adams, Hermalin and Weisbach, 2010; Harris and Raviv, 2008; Baranchuk, 2009). The recent empirical and theoretical developments suggest that the diversity of board types, sizes and compositions observed in corporations worldwide responds to an economic rationale, as corporations adapt their

board designs to their specific monitoring and advising requirements, and to various institutional constraints.

2.2 Managerial compensation

Owners can also use the remuneration packages to managing directors and the executive team to align the interest of shareholders (who own the company) and managers (who control the company). The level of compensation has to suffice to attract and retain talented managers, while the composition of compensation is meant to prevent rent extracting. There is a vast literature on how the structure of CEO pay affects CEO action choices and, ultimately, firm value: many authors argue that equity linked compensation is the optimal way to align the incentives of managers and shareholders (Holmstrom and Kaplan, 2001; Homstrom and Milgrom, 1991; Wuang, 2004), whereas several studies analyse the plausible pervasive effects of this type of management compensation. Excessive equity linked compensation (stocks, restricted stock and stock options) can lead to earnings management (Bergstresser and Philippon, 2006; Zheng and Cullinan, 2010), risk reallocation (Coles et al, 2006; DeFusco et al, 1990; Guay, 1999; Jin, 2002), choice of short-term strategies over the long term (Bebchuk and Fried, 2003; Bebchuck, Cohen and Spamann, 2010; Bolton and Scheinkman, 2006; Volker, 2012), option backdating (Bebchuk et al, 2010), etc.

The rapid increase and high levels of managerial compensation has also attracted a large amount of attention from academia, politicians, and from the regular press. Several economic theories have been proposed to explain the observed levels of CEO compensation (See Edmans and Gabaix, 2009 for a survey). Among those we can cite changes in the demand for CEOs (Murphy

and Zabojnik, 2007; Murphy and Zabojnik, 2004), increase in firm size (Gabaix and Landier, 2008) changes in the diligence of boards of directors (Hermalin, 2005), empire building (Jensen, 2003), ratcheting (Nagel, 2005) and competition for scarce CEO talent (Acharya, Pagano and Volpin, 2012). All those different theories stand as opposing that of Bebchuk and Fried (2004), who argue that the recent increase in executive compensation is originated by entrenched managers due to poor firm governance (See Bebchuck, 2005 for an overview).

The interaction of compensation incentives with other governance mechanisms in place (albeit part of this thesis) has been less noticed in the literature. Ownership and capital structure are related to the grant of equity linked compensation (Core, Holthausen and Larcker, 1999; Mehran, 1995). For example, in settings where ownership is widely dispersed, equity linked compensation can be seen as an efficient instrument to align the interest of shareholders and the management, while in settings where ownership is concentrated in the hands of few major shareholders, the grant of equity linked compensation can facilitate entrentchment of the management team, and rent extraction from minority shareholders, to the hands of majority shareholders and management team. On the other hand, equity linked compensation is arguably an efficient governance instrument in firms with limited cash flow, high growth opportunities or in need to restructure (Holmstrom and Kaplan, 2001).

Because the use of equity linked compensation blurs the separation between ownership and control, it clearly influences the composition of the board, and its supervisory role on the management team (Ferranini, Moloney and Ungureanu, 2009; Chhaochharia and Grinstein, 2007; Chung, 2008; Wuang, 2004). It is a topic of current debate what constitutes the adequate

compensation structure to the CEOs (Feinberg, 2011), and whether caps to (arguably) excessive CEO pay are adequate.

2.3 Ownership structure

How corporations are governed and how control is distributed within these organizations depends crucially on the organization's ownership structure.

Although most theoretical literature on corporate governace is based on Berle and Means (1932) notion of corporation with many dispersed owners, each of them so small that is unable to influence firm governance alone, this type of ownership structure is not represantive of listed corporations worldwide (LaPorta and Lopez de Silanes, 1999). It is a common classification that firms in anglo saxon (common law) countries are characterized by dispersed ownership of the type described by Berle and Means, while ownership in Continental Europe (civil law countries) is concentrated around few controlling shareholders.

In a setting where ownership is dispersed among several owners, all of them small enough, the key agency problem arises between the management who controls the firms and the shareholders that are small to monitor efficiently, whereas in settings where ownership is concentrated in few hands, the agency problems can arise between minority and majority shareholders, as majority shareholders have an incentive to self-deal or to extract rents from minority shareholders. Among the authors modeling these types of rent extractions we can cite Johnson et al. (2000), Lombardo and Pagano (2002), LaPorta et al (2002), Shleifer and Wolfenzon (2002), Doidge et al (2007), Durnev and Kim (2005), Stulz (2005).

In shaping control powers over the firm, it is not just the proporportion of ownership that is relevant, but also other factors like the type of owner, or the existance of complex ownership structures. Typical controlling shareholders are large institutional investors, such as banks, financial instituions and non financial institutions, pension funds, companies, the state, families or wealthy individuals. Large shareholders can form alliances and act as a block to influence corporate decisions. Those block holders are significant in countries with concentrated ownership such as South Korea, Russia, Germany, Italy or Spain. The effect of this disproportional ownership on firm value is ambiguous. The existance of controlling shareholders can be beneficial, as they have incentives to monitor the management, pursue long term growth, and even reduce the exposure of firm shares to market price volatility. However, when disproportionate control creates too many opportunities for rent extraction, private investors might be reluctant to provide capital, leading to underinvestment, which ultimately prevents economic growth (Adams and Ferreira, 2008).

Complex ownership structures allow to obtaing control of the corporation, in excess of cash flow rights. Complex corporate structures are pyramids (widely present in Continental Europe), firm networks and cross holdings (present in countries like Korea and Japan). The pyramid is the structure widely used by international groups who own the companies incorporated in a number of countries. It is also frequently used by family owners, to hold control over corporation in excess of their cash flow rights.

Dual class shares are also used to distort the proportionality principle. Dual class firms allow to separate cash flow and voting rights, usually allowing management (or the original owner of the company) to control the company, while only having a small proportion of cash flow rights. Shares with

voting and without voting rights trade at different prices, giving the resulting premium a measure of the value of corporate control and private benefits (Adams and Ferreira, 2008; Doidge, 2004; Neumann, 2003, Nicodano, 1998). Howe and Tamm (2011) show that dual class firms are less likely to have independent boards and have lower levels of institutional ownership. On the other hand, they are more likely to have separate individuals as CEO and Chairman of the board, and less likely to have staggered boards, which are considered to be good governance characteristics. Gompels, Ishii and Metrick (2010) find strong evidence that firm value is increasing in insider's cash-flow rights and decreasing in insider's voting rights.

2.4 Legal, political and regulatory system

The laws and regulations of a country that provide the institutional and legal framework for business contracts have a clear impact on the way corporations are governed. According to LaPorta, Lopez-de-Silanes, Shleifer and Vishny (2000), differences in investor protection are very important determinants of differences in ownership structure, financial development, dividend policy, mergers and acquisitions. Their importance is such that these authors argue that countries legal approach (in terms of investor protection) is a more fruitful way to understand corporate governance and its reform than the conventional distinction between bank centered and market-centered financial systems. In a series of papers they show that countries with poorer investor protection have smaller and narrower capital markets (La Porta et al., 1997), more concentrated ownership (La Porta et al., 1998), and ultimately lower firm valuation (La Porta el al., 2002). This later conclusion is the one that has attracted most interest, shaping the institutional approach to corporate governance of the last decade, towards a shareholder based approach,

common in Anglo-Saxon countries, which are- according to these authors- the countries where investors are more protected by the legal and institutional framework.

Besides, recent empirical papers show that firms seem to choose very similar governance standards within countries (Bergman, 2007; Doidge, Karolyi and Stulz, 2007), even when there is evidence of positive returns to governance standards above the minimum requirements (Gompers et al., 2003; Durnev and Kim, 2005; Gomes, 2000). One plausible explanation for this puzzle is that firms do not internalize the benefits that their improved corporate governance has on their competitor. When corporate governance generates positive externalities, market based mechanisms that force firms to internalize this externality and increased regulatory standards are desirable (Acharya and Volpin, 2010).

2.5 Business forces: product market competition and the market for corporate control

Product market competition acts as a disciplinary device to avoid rent extracting (Jensen, 2003), as it is in settings where competition is high among players, that only the most efficient firms are able to survive. In a high competitive setting the chances to obtain excess surplus are reduced by competition, and thus, the chances to extract rents for those who control the corporation eliminated or severely constrained. In settings where firms compete for funding in the capital markets, sound corporate governance can be decisive to attract capital, and raise funds on better terms. Gompers et al. (2003) find that firms with better corporate governance have –other things being equal- higher value, profits and sales growth. Another business force that

acts as a strong disciplinary device is the risk of a take-over (Holmstrom and Kaplan, 2001; Schleifer and Vishny, 1997). If a firm is ill-governed, it risks to be taken over by outside investors, who can replace the management team and add value by improving the governance system. This acts as a disciplinary device for managers with career concerns, who would lose reputation and future income if replaced. However, managers and majority shareholders can protect themselves from hostile takeovers, implementing measures such as staggered boards (where only one third of the board can be replaced each year, so that the original board members still hold control of the company), shareholders right plans (such as poison pills), supermajority clauses or dual-class shares.

3. CORPORATE GOVERNANCE IN EUROPE: THE INSTITUTIONAL FRAMEWORK

The Corporate Governance framework for listed companies in the European Union is a combination of legislation and ”soft law”, including recommendations and corporate governance codes. While corporate governance codes are adopted at a national level, Directive 2006/46/EC promotes their application by requering that listed companies refer in their corporate governance statement to a code and that they report on their application of that code on a ”comply or explain” basis[23].

The European corporate goverannce framework has experienced its largest development within the last decade (1999-2009), which correspond to the years of our study. During these years we witnessed an unprecedented

[23] See Green Paper: The EU Corporate Governance Framework (2011)

interest from academics, regulators, and public opinion, on how firms design their internal Corporate Governace Systems.

The issue of internal corporate governance of listed firms became central to the public interest after the collapse of the Enron Corporation in US in October 2001, due to a failure of internal control mechanisms, and after the Parmalat scandal in Europe, in the year 2003, where the lack of independence of the audit committee members from controlling shareholders was key to the fraud (Mellis, 2006). These scandals originated a growing interest in corporate governance improvement, not just from academics and regulators, but also from the small investors and the general public. This public awareness put corporate governance improvements at the top of the political agenda, and originated a wave of new norms and regulations in both sides of the Atlantic, to address issues such as the optimal design of the board of directors, increase in transparency and disclosure rules, accountability of directors and members of the management team for excessive risk taking, rent extraction and business failures, etc.

In the central years of the decade- approximately between 2002 and 2007- the attention of the public opinion was centered on the levels of executive compensation, especially in US, and the controversy about certain types of compensation schemes, like stock options, which were blamed to induce rent extraction, excessive risk taking, and ultimately, business failures (Chesney, Stromberg and Wagner, 2011).

Nowadays, failures in the internal corporate governance systems of several financial firms and CEO greedy behavior due to poorly designed compensation schemes have been blamed for the ongoing financial crisis. Arguably, managers in big corporations where driven by short term profits

(partly due to their compensation systems), and overlooked long term sustainability of their companies (Bhagat and Bolton, 2011), while uninformed auditors and entrenched board of directors were unable to stop the failure and address the wrong doing (Bebchuck, Cohen and Spamann, 2010).

As a result of the corporate scandals on both sides of the Atlantic, there have been profound changes in corporate governance regulations, both in US and in Europe. Regulations have aimed at harmonized and stricter accountancy standards, more independent boards of directors, increased amount of control-enhancing mechanisms, increased disclosure in executive and director compensation and increased disclosure of the company position and prospects to shareholders. We have also witnessed an unprecedented wave of corporate governance harmonization worldwide. The differences between corporate governance systems have diminished over the last decade, and we observe a growing consensus over corporate governance standards, towards a market based approach to corporate governance, where companies retain flexibility so as to design their internal corporate governance systems, while ensuring accountability to their shareholders.

3.1 The period 1999-2003. The harmonization and consolidation of national codes

The years that cover our study (1999-2009) have an additional interest for Europe from a corporate governance point view. Together with the common interest to improve corporate governance standards, there was an intense activity in Europe to harmonize the corporate governance systems of the Member States, in a clear effort to advance towards Corporate Governance harmonization within the framework of a single European Market. From the

beginning, the EU was involved in the development of numerous Directives (see Table 3), relating to company law and corporate governance, with the objective to harmonize corporate laws and codes within the European Union. This harmonization was especially intense during the period 1999-2003, when many countries issued or amended their Corporate Governance Codes. In one of its latest Green Papers (Green Paper 2010/164 on the EU Corporate Governance Framework), the European Commission reiterated its commitment to a successful single market, being corporate governance and corporate social responsibility key elements to building people's trust in the single market.

TABLE 3. MAJOR EU CORPORATE GOVERNANCE INITIATIVES

In this table we present major EU initiatives in the field of the fostering and development of a Corporate Governance Framework, as key element in the creation of the Single European Market. This table is not exhaustive; we rather focus on EU acts that are relevant to the corporate governance elements of this study (compensation policies, board size and independence, committee work, etc.).

Year	Corporate Governance Initiatives
1968-1989	Various EU Directives, Recommendations and Communications involving company law and corporate governance
2001	The Council Regulation on the Statute for a European Company (Societas Europaea)
2003	The Modernization Directive (2003/51/EC)
	The Prospectus Directive (2003/71/EC)
2004	Market in Financial Instruments Directive (2004/39/EC)
	The Takeover Bids Directive May 2004 (2004/25/EC)
	The Transparency Obligations of Listed Companies Directive (December 2004) 2004/109/EC
	Recommendation on the Remuneration for Directors of Listed Companies (December 2004)
2005	Recommendation on the role of non-executive/supervisory directors and Supervisory Board Committees (February 2005)
2006	The Fourth and Seventh Accounting Directives Amendments (June 2006)

	2006/46/EC The Statutory Audit of Annual and Consolidated Accounts Directive (2006/46/EC)
2007	Directive on the Exercise of Shareholders' Rights (2007/36/EC)
2008	The Small Business Act
2008	Mediation Directive (2008/52/EC)
2009	The Regime for the Remuneration of Directors of Listed Companies
2010	The Green Paper on the EU Corporate Governance Framework. COM2010/164
2011	Report of the Reflection Group on the Future of EU company law

Besides, all countries in our study have introduced new Corporate Governance Codes (see Table 4), and Corporate Governance Laws and Regulations (see Table 5) during the last decade, with the result of a clear tendency towards harmonization of Governance standards within EU. As a result of this intense regulatory decade, all Member States (in our study) had their own distinctive code of "best practice", by the end of 2010.

These national codes present notions of "best practices", on comply or explain basis, compliance varying considerably from country to country. Compliance of the codes is followed in all countries in our study via surveys performed by various private and public entities. Due to public and investors awareness of the importance of sound corporate governance, there is a tendency among firms to comply with the code recommendations, rather than to explain areas of non-compliance. Thus, one can argue that these codes have a clear impact so as how European companies design their internal control mechanism.

One of the distinctive features of the Corporate Governance systems in the EU is that, despite convergences of internal controls, there is not a unified Corporate Governance Code that holds for the whole EU, but each

Member State has developed its own corporate governance codes (See Table 4).

TABLE 4. RECENT DEVELOPMENTS IN NATIONAL CORPORATE GOVERNANCE CODES

In this table we present the latest- as of year 2010- Corporate Governance Code issued (the country, the name of the document, the issuing institution and the year of publication) in each of the countries that are covered by this study.

Country	Code of Corporate Governance	Issuing Institution	Year
Austria	The revised Austrian Code of corporate Governance (Österreichischer Corporate Governance Kodex)	Austrian Working Group for Corporate Governance	2007
Belgium	The revised Belgian Code on Corporate Governance	The Lippens Committee	2009
Denmark	The revised report on Corporate Governance in Denmark	An Independent corporate governance committee of the Copenhagen Stock Exchange	2008
Finland	Revised Corporate Governance Recommendations for Listed Companies	A working group comprising HEX Plc, the Central Chamber of Commerce of Finland and the Confederation of Finnish Industries and Employers	2008
France	Revised Recommendations on Corporate Governance	Hellebuyck Commission	2008
Germany	The Revised German Corporate Governance Code (The Cromme Code) Deutscher Corporate Governance Kodex (DCGK)	A government commission appointed by the German Justice Minister	2008
Greece	The Principles of Corporate Governance	The Federation of Greek Industries	2001
Ireland	The Combined Code	The UK's Financial Reporting Council	2008

Italy	Revisions to the Corporate Governance Code (Codice di Autodisciplina)	The Italian Stock Exchange	2006
Luxembourg	The Ten Principles of Corporate Governance of the Luxembourg Stock Exchange	The Societé de la Bourse de Luxembourg Corporate Governance Working Group	2006
Netherlands	The Dutch Corporate Governance Code	The Corporate Governance Code Monitoring Committee	2008
Portugal	The Corporate Governance Code	The Securities Market Commission	2007
Spain	The Unified Code of Recommendations for Good Governance	A Government Special Working Group	2006
Sweden	The revised Swedish Code of Corporate Governance	The Code Group	2008
UK	The Combined Code	The Financial Reporting Council	2008

Source: Pierce (2010)

Already in 2002, a research report "A comparative Study of Corporate Governance Codes Relevant to the European Union and Its Member States" on behalf of the European Commission (January 2002), analyzed Corporate Governance Codes Convergence within the EU Member States. The report recommended that the EU should not attempt to develop a pan European code. It also concluded, that despite legal differences among EU Member States, the trends towards convergence in corporate governance practice in EU Member States appeared to be both more numerous and more powerful than the trends towards differentiation. The report states that in this regard, the codes—together with market pressures—appear to serve as a converging force.

According to the report, the two key differences in corporate governance practice among EU Member States relate to employee representation, and, more importantly to our study, to board structure (to the use of one-tier, versus a two-tier board structure). In the two-tier board structure, a supervisory body, formally separated from the management body, is set up to supervise the management team. In the one-tier board structure, there is only one body (the board), composed by both members of the supervisory and management team. In all cases, shareholders elect all board members, although in countries with employee representation (Austria, Denmark, Germany, Luxembourg and Sweden), in firms of a certain size, employees have the right to choose some members of the supervisory board. Each type of board has clearly advantages over the other. The one-tier system might result in a closer relation and better information sharing between managers and supervisors, while the two-tier system might allow clearer formal separation of supervision and control. However, notwithstanding structural differences between one-tier and two-tier board systems, the similarities in actual board practices are significant. This is the case, as both types of board structure recognize similar board functions (the supervisory function and managerial function, being distinctions between those functions more formalized in the two-tier board structure). Besides in many Member States, codes give firms freedom to choose their preferred board structure (Portugal, Italy, France, Finland), and different board structures coexist within the same institutional framework. Finally, other aspects of board work (like the separation of the roles of Chairman of the Board and CEO in one tier board structures, and the internal board work in committees), allow convergence in board actions, despite formal differences mentioned above.

The key conclusion of this report was that the trends toward convergence in corporate governance practice in EU member states were identified as being both more numerous and more powerful than the trends towards differentiation. The most important differences in corporate governance practice within the EU resulted from differences in company law and securities regulation rather than differences in corporate governance code recommendations. The research found a considerable degree of company law standardization, although significant differences, deeply grounded in national attitudes, still remained.

3.2 The period 2003-2007. The modernization of Corporate Governance towards increased board independence, transparency and harmonization

Simultaneously to the comparative study of national corporate governance codes, the European Commission launched an initiative, in 2002, to make recommendations on a modern regulatory framework for company law within the EU. A high level group of experts elaborated a report "The Winter Report", focused on the efficiency and competitiveness of European Business. As a result of the Winter Report, an action plan to modernize company law in the EU was implemented by the European Commission: the Modernization Directive (June 2003) 2003/51/EC. The recommendation included –among other aspects- the enhancement of corporate governance disclosure requirements, and the strengthening of the role independent non-executive and supervisory directors.

This recommendation towards increased board independence and the preference for outsider dominated board, was reinforced with the Recommendation on the Role of Non-executive/ Supervisory Directors and

Supervisory Board Committees of February 2005. This recommendation clearly reinforced board independence, as it included among its principles the recommendation of a balance between non-executive and executive directors, with a sufficient number of independent directors; it also recommended to separate the roles of Chairman and CEO in unitary boards, and to set up (independent) nomination, remuneration and audit committees. The board could delegate decision-making to committees although it retained the responsibility for their decisions.

In July 2007, the EC published a report on member states´ application of this recommendation favoring board independence. The report concluded that "There was a clear trend towards improving corporate governance standards in the EU", and identified that firms in member states had complied "almost fully or to a large extent". The main areas of non-compliance were identified as being the failure by some firms to have a sufficient number of independent board members on the remuneration and audit committees.

In April 2004, The European Union adopted the Takeover Directive (Directive 25/2004/EC2004] OJ L12/142 to increase investor protector and facilitate takeovers across the EU, providing a level-playing ground for cross border mergers and acquisitions in the European Union. The most relevant provisions contained in the directive are (1) the principle of equal treatment, which states that minority shareholders are given the opportunity to exit their firm in the wake of a takeover bid on the same terms as the large shareholders. (2) the one-share-one-vote principle, which prohibits any restrictions on voting rights (3) the break-through rule that enables a bidder to circumvent voting restrictions contained in a company's articles of association. This last provision is the most controversial of all, as it is meant to actually reduce shareholder

protection. It faced opposition from Germany and Sweden and was only adopted in a watered-down form. Opponents of this provision argue that the break through rule violates the principle of shareholder decision-making. It might also make inefficient bids possible that would otherwise have failed or increase the use of pyramids of ownerships. The impact of this Directive on shareholder protection and harmonization across Europe is still to be measured, and depends on how the directive is applied in each Member State.

Additionally, during the second part of the decade, the European Commission worked on other aspects of corporate governance, like mediation (Mediation Directive, April 2008), Small Business (Small Business Act, June 2008), audit and accounting (The Statutory Audit of Annual and Consolidated Accounts Directive , June 2006/43/COM, The Fourth and Seventh Accounting Directives Amendments, June 2006/46/EC), and even a proposal to create a new type of private company, that could be formed quickly and cheaply under the same principles across the EU, The European Private Company (Societas Privata Europaea Proposal, June 2008)[24].

3.3 The period 2007-2012. Fighting the crisis through improved corporate governance.

Nowadays, there is a clear understanding at European level of the importance of sound Corporate Governance to achieve further economic integration and growth. Current issues on the agenda are to deepen the harmonization process within the EU to achieve a de facto single economic market; and to improve corporate governance standards to avoid business failures like those that led to the financial crisis that we are currently suffering.

[24] See Table 3

The Commission has adopted a bundle of recommendations and regulations promoting financial stability within the EU. For example, we have witnessed the creation in year 2009 of three different European Supervisory Authorities (ESAs)- one each to supervise banking, securities and insurance across Europe. The Commission has also adopted a package of legislation to significantly strengthen the supervision of the financial sector in Europe. It set up a European System of Financial Supervisors (ESFS), composed of National Supervisors, and the three new Supervisory European Authorities for the banking, securities and insurance and occupational pensions sectors. These measures reflect the clear awareness among regulators about the need to identify risks in the system at an early stage, and to be able to act together in emergency situations and in resolving disagreements among supervisors[25].

To cut excess remunerations, a non-binding recommendation on "The Regime for the Remuneration of Directors of Listed Companies (April 2009)", requires a balance between fixed and variable remuneration, and links performance remuneration to predetermined and measurable performance criteria. It proposes limits to the fixed component of the severance payments, a balance between fixed and variable remuneration, and a balance between short term and long term performance criteria. It also allows companies to reclaim variable remuneration based on misstated corporate performance data (claw-back provisions); it enhances remuneration disclosure and fosters the role of remuneration committees. This recommendation extends the disclosure requirements in the 2004 Recommendation to improve shareholder oversight. It proposes that non-executive should not receive share options to avoid conflict of interest and strengthens the role and operation of the remuneration

[25] See Pierce , 2010

committees through new principles on composition of the remuneration committees.

TABLE 5. RECENT DEVELOPMENTS IN NATIONAL CORPORATE GOVERNANCE LAWS AND REGULATION

In this table we enumerate the key actions in the field of corporate governance, which have been implemented in each of the EU countries that are subject of this study.

Country	Law/Regulation	Year
Austria	The Decree by the Financial Authority on Compliance of Issuers (Emitente-Compliance-Verordnung)	2007
Belgium	The Corporate Governance Act	2002
Denmark	The Social Responsibility for Large Business Law	2008
Finland	The Companies Act	2006
France	Travail, Emploi, Pouvoir d'achat (TEPA)	2007
Germany	The Implementation of the Shareholders Rights Directive Act	2009
Greece	Law 3604	2007
Ireland	The Companies Act	2009
Italy	The Consolidated Financial Act	2008
Luxembourg	The Law on Transparency	2008
Netherlands	One Tier Board Bill	2009
Portugal	CMVM Regulation No 1/2007: Corporate Governance	2007
Spain	Circular 5/2007 of the CNMV	2007
Sweden	The Companies Act (Aktiebolagslagen)	1975
UK	The Companies Act	2006

Source: Pierce (2010)

The EU gives a high priority to the harmonization of codes and company law, and two recent reports, "The Green paper 2011 COM2011/164 on the EU Corporate Governance Framework" and "The Report on the

Reflection Group on the Future of EU company law" both published in the year 2011, address this importance.

In the first report, on the EU Corporate Governance Framework, the green paper stresses the importance of board of directors (and the figure of Chairman of the Board) for the business strategies and future of European companies. The European Commission reiterates its commitment to a strong and successful single market, being Corporate Governance and Corporate Social Responsibility key elements to building people´s trust in the single market.

The Report of the Reflection group on the Future of EU company law addresses current problems in the EU company law, provides analysis and suggests initiatives to serve as inspiration for the on-going debate on EU company law. It shares the view that EU harmonization should respect the national corporate governance systems of the Member States, which have been developed throughout the years, and are aware of national characteristics of the Members business environment and institutional framework. Harmonization should strive to further the trend towards increased flexibility and freedom of choice in respect to company forms and the internal distribution of powers. This Report also recommends that harmonization should be focused and aimed at particular problems, and it should not rely on broad and imprecise categorizations.

4. CORPORATE GOVERNANCE FEATURES OF EUROPEAN LISTED FIRMS

4.1 An overview of the European corporate sector

The European corporate sector is characterized (as opposed to the US sector) by concentrated ownership, smaller and less liquid stock markets, and lower takeover activity (See Table 6). These market conditions clearly influence the way European corporations are governed and controlled, and are closely related to the institutional settings where European listed firms operate.

TABLE 6. OWNERSHIP, SHAREHOLDERPROTECTION AND LEGAL SYSTEMS IN 8 EUROPEAN COUNTRIES

In this table we present measures of ownership concentration and investors protection from 8 European countries.

Country	Ownership Concentration	Widely Held firms	Anti-Directors Rights	Legal System	Takeover regulation
UK	0.19	63.08	5.0	8.80	5
France	0.34	14.00	3.5	7.66	2
Germany	0.48	10.37	3.5	8.95	2
Italy	0.58	12.98	2.0	7.10	5
Sweden	0.28	39.18	3.5	8.78	3
Denmark	0.45	-	4.0	9.08	4
Norway	0.36	36.77	3.5	8.86	3
Finland	0.37	28.68	3.5	9.16	3
Average	0.38	29.30	3.56	8.55	3.37

Source: Damiani and Pompei (2008)

Historically, Continental IPO market (the market place where firms go public) has been much smaller than its US counterpart[26]. Until fairly recently, most European Stock Exchanges have had listing requirements that focused on financial requirements, such as having three years of positive

[26] Source Ritter (2003)

earnings before going public (Ritter, 2003). Besides, firms going public in Europe- especially in Continental Europe- tend to be older than those going public in the US[27], and are more likely to include secondary shares (shares being sold by existing shareholders) in the offering than it is true for US IPOs (Source Ritter, 2003).

TABLE 7. MERGERS AND ACQUISITIONS BY TARGET COUNTRY IN 8 EUROPEAN COUNTRES, 2002-2005

Country	Number of M& A	% of M& A
UK	475	59.23
France	106	13.22
Germany	57	7.11
Sweden	43	5.36
Norway	40	4.99
Italy	45	5.61
Finland	11	1.37
Denmark	25	3.12
Total	802	1000

Source Damiani and Pompei (2008)

Ownership is more concentrated in continental Europe that in UK and US. For example, only 2% of listed UK and 1.7% US firms have a majority shareholder, compared to 68% of Austrian firms, 64% of German firms, and 56% of Italian firms (Goergen, 2007). Those large shareholders have incentives to commit over the long term with the firm, a feature related (in our view) to the liquidity differences between Europe and US. On the other hand, large holdings of company stock provide chances to extract rents from minority shareholders, which could be related with the degree of ownership concentration prevalent in Europe.

[27] Giudici and Roosenboom (2002) report a median age of thirteen years for 1007 European IPOs during 1995-2001, whereas Ljungqvist and Wilhelm (2003) report a median age of seven years for 2178 US IPOs during 1996-2000

Ownership concentration differs not only in numbers, but also in the nature of large shareholders. Large shareholders in Europe tend to be family, other companies, banks (who are also present as key debt holders) and the Government (Goergen, 2007). Germany is characterized by inter-corporate equity relations and family control whereas institutional shareholders hold most of the voting rights in UK (Damiani and Pompei, 2008).

In 2007, the Institutional Investors Service conducted a survey on behalf of the European Commission about deviation of one share-one vote principle in 16 European Countries. The survey showed that at least 44% of the sample (464 firms) had at least one CEM (control enhancing mechanism), being the most frequent mechanisms pyramids (27% of the corporations), and dual-class shares (24%)[28]. The report showed great divergences between countries. While pyramids are common in Belgium (34% of the firms) and Sweden (48%), there are few of them in the UK (3%) and Denmark (0%). The report also showed that multiple voting shares are common in Sweden (59%), France (58%) and the Netherlands (41%), but virtually nonexistent in some countries such as Belgium and Italy. Pajuste (2005) provides evidence of a marked trend away from dual-class shares in Europe, showing that firm value increases after unification of dual class shares.

The take-over market is less active in Europe than is US. Patterns of ownership and control provide a plausible explanation for this feature. In countries where ownership is very concentrated (like those mentioned above) takeovers might be less common, since large shareholders have enough incentives and power to exert control over managers, and they are in a stronger position to impose defensive strategies to prevent hostile takeovers (although they benefit from friendly takeovers). UK is the European Country

[28] Source Adams and Ferreira (2008)

with the largest M& A activity (See Table 7), more than tripling that of France, Germany and Sweden. By economic sectors, the Telecommunication sector is that bearing the largest number of M&A transactions (Ritter, 2003).

4.2 The evolution of last decade: from the technological bubble burst to the current financial crisis[29]

Despite the intense regulatory development of the European Corporate Governance framework from the beginning of the 2000s, we observe that actual changes in firms´ corporate governance systems have been more subtle. In our study, we observe that the most remarkable changes in board structure are a (1) trend towards smaller and more independent boards, (2) a stable structure of board organization within committees, and (3) a volatile path of CEO compensation and incentive pay.

TABLE 8. THE STATE OF CORPORATE GOVERNACE IN EUROPEAN LISTED FIRMS

In this table we present key figures on the estate of corporate governance in a representative sample of listed European Firms provided by the data provider BoardEx. The sample covers the firms, countries and years that are subject to this study. We present data on firm value (Q), board size and independence (Outsiders), number of committees, number of monitoring and advising committees, proportion of monitoring committees, the (firm) average committee size, the (firm) average committee independence (committee outsiders), the (firm average) independence of monitoring (monit. com. outsiders) and advising (adv. Com. outsiders) committees, the proportion of firms where the CEO is also Chairman (chair duality) and the proportion of equity linked compensation in CEO pay.

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Q	2.83	2.593	1.87	1.55	1.76	1.88	2.0	2.26	2.06	1.47	1.622
Outsiders	0.59	0.591	0.605	0.615	0.62	0.62	0.617	0.618	0.618	0.629	0.631
Board size	10.3	10.03	10.06	10.03	9.81	9.41	9.06	8.8	8. 6	8.768	8.74
Nr. Of committees	2.82	2.80	2.82	2.79	2.88	2.88	2.82	2.78	2.81	2.83	2.88
Nr. committees (Monitoring)	2.4	2.40	2.39	2.36	2.43	2.45	2.42	2.79	2.41	2.39	2.44
Nr. committees (Advising)	0.39	0.42	0.42	0.42	0.44	0.41	0.39	0.38	0.4	0.43	0.44

[29] To elaborate this section we have used the database that we have constructed for the empirical part of this thesis

Proportion of monitoring com.	0.86	0.87	0.87	0.87	0.87	0.89	0.89	0.89	0.88	0.88	0.88
Committee size	3.66	3.53	3.53	3.52	3.5	3.41	3.25	3.26	3.26	3.3	3.33
Committee outsiders	0.62	0.60	0.60	0.604	0.61	0.609	0.602	0.599	0.60	0.597	0.593
Monitoring com. outsiders	0.58	0.557	0.54	0.546	0.55	0.549	0.52	0.51	0.505	0.48	0.494
Adv. com.outs.	0.11	0.125	0.14	0.129	0.14	0.14	0.13	0.144	0.142	0.158	0.149
Chair duality	0.27	0.23	0.25	0.24	0.24	0.24	0.24	0.23	0.21	0.22	0.21
Proportion of variable pay in CEO compensation	0.24	0.27	0.26	0.22	0.24	0.23	0.246	0.256	0.257	0.21	0.235
Nr. of obs.	301	456	621	739	879	1031	1248	1467	1627	1636	1512

Board size has decreased in Europe from an average 10.34 board members in 1999 to 8.74 board members in 2009, while the average ratio of outsiders to board size (which is a commonly established measure of board independence), increased from 59% in 1999 to 63% in year 2009. The decrease in board size was more pronounced after year 2003: if the average board size in Western European firms decreased from 10.34 to 9.81 (which means a 5.1% decrease in size) in the period between 1999 to 2003, the shrinkage in the subsequent four years (the period from 2003 to 2007) doubled to 11.72% (from 9.81 to 8.66 members).

The increase in board independence was less pronounced, and occurred mainly during the years previous to the Modernization Directive (2003) that recommended the strengthen of independence requirements for boards of directors. The average proportion of outsiders on a sample of representative Western European Boards increased from 58.6% at the beginning of the period (1999) to 63.1% at the end of the period (year 2009), which amounts to a 7.6% increase in independence. In the four-year-period previous to the publication of the Modernization Directive the proportion of outsiders on European boards rose on average 5.8% (the ratio of outsiders to

executive directors was 58.6% in year 1999, and 62 % in year 2003). In the six following years the increase was of just 1.7% (from 62% in year 2003 to 63.1% in year 2009). This figures support a common view that Corporate Governance Framework in Europe aims at setting minimum standards, that usually respond to business needs that might have been already anticipated and implemented within firms, so that they comply with the requirements when the new recommendations are in place.

Even when we observe changes in the overall composition (size and independence) of European boards, the internal functioning of the boards in committees has remained, on average, very stable throughout the years of our study in Europe. The median listed firm in Europe has 3 committees in its board, being the most common the Audit committee (in approximately 90% of the firms), Nomination committee (in 45% of the firms), Remuneration committee (in 77% of the firms and Remuneration and Appointments committee (12% of the firms). Those three are the committees recommended in the Modernization Directive (2003). Less than 25% of the European Firms in our sample have set up committees that are purely advisor in nature (like the strategy committee, organization committee, or risk management committees).

We observe a decrease in average committee size from 3.66 members to 3.33 members in the years of our study, and a 4.3% decrease in the average proportion of outsiders within committees (from 0. 62 in the year 1999 to 0. 593 in the year 2009). By nature, the monitoring committees are on average more independent that the advisory committees, where only 14% of their members are outsiders.

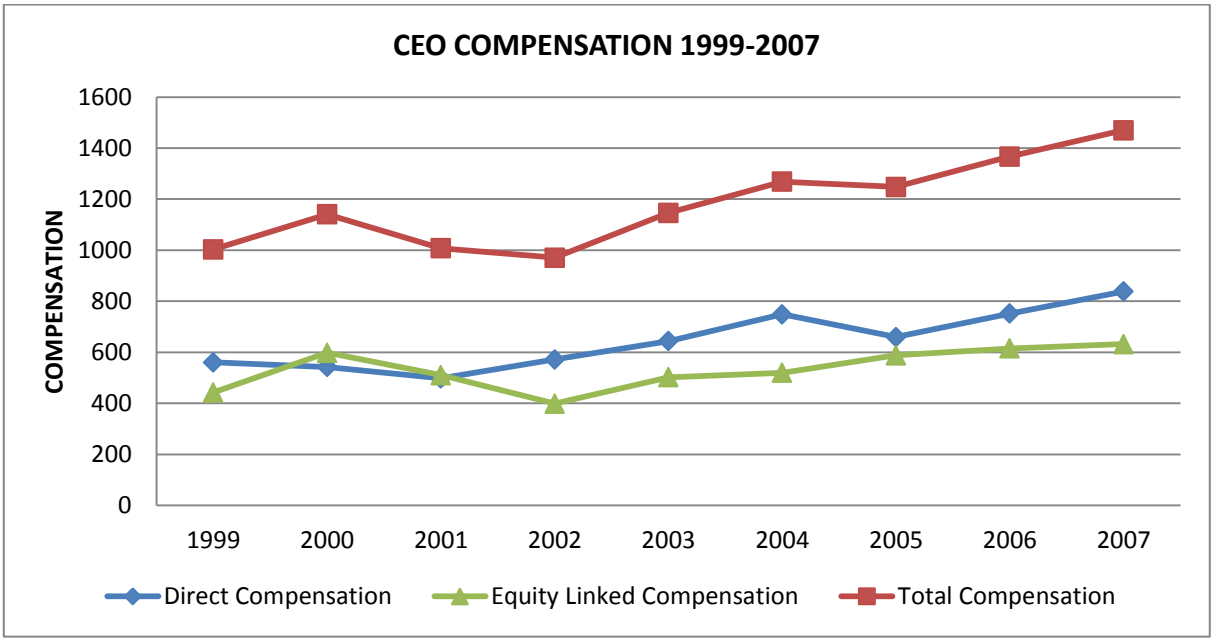
Another trend towards increase independence is reflected by the fact that CEO duality (the situation where the CEO is also the Chairman of the Board), has become rarer in Europe.

The CEO of an average European listed firm received 1 470 000 US dollars in the year 2007. CEOs received equity linked compensation in 42.52% of the observations, while in the rest (57.48%) CEO pay contained no equity linked compensation. For the CEOs receiving equity linked compensation, this type of pay made up to 45.9% of their total pay.

Figure 1 shows that the evolution of equity linked compensation (for the firms used in the analysis of chapeter three) followed the evolution of direct and total compensation, being in year 2007 when CEO pay reached its highest levels, and in year 2002 when it was at its lowest.

As we see from Figure 1, the evolution of equity linked compensation went parallel to the state of the public debate on executive compensation during the years 1999-2009. The amount of equity linked compensation dropped sharply in year 2000, after the technological bubble of the late 1990s exploded. The enormous increase in stock option compensation of the late 1990s was seen as a key determinant of the speculative era that led to this bubble-burst.

FIGURE 1. EVOLUTION OF CEO COMPENSATION 1999-2007

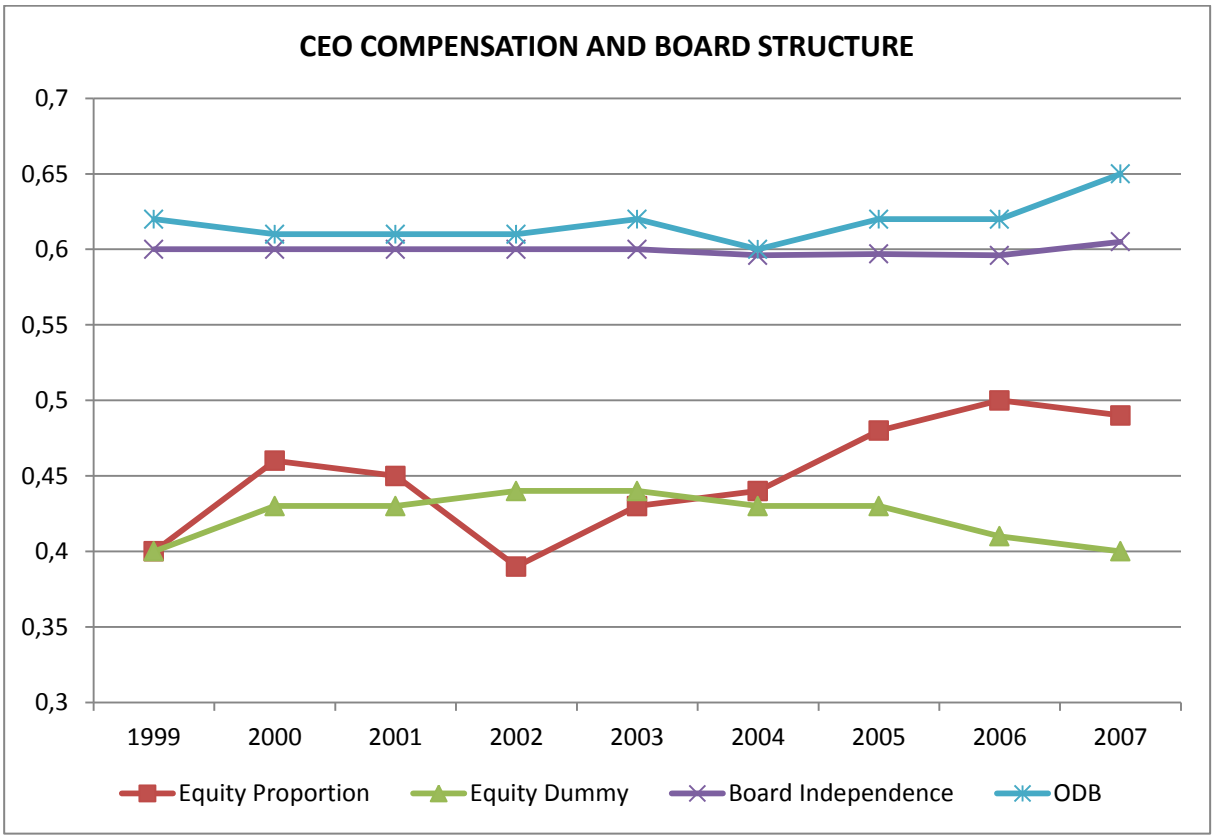


We also observe a sharp decline in equity linked compensation after the Enron scandal was disclosed in October 2001. Due to the Enron scandal, option plans where associated with the distortion of management incentives and earning manipulation. Several policy makers and academics started questioning the effectiveness of this type of remuneration. Still, equity linked compensation increased during the expansion period 2002-2007, despite the lively public debate on executive compensation, questioning the current levels and the structure of executive compensation.

Despite the increase in the total amount of equity linked compensation granted after year 2002, we observe in Figure 2 that the proportion of firms that grant equity linked compensation declined after the year 2002, as shown by the declining striped line named “Equity dummy”. However, those firms that do grant equity linked compensation pay a higher stake of CEO compensation in this form and the proportion of equity on annual

CEO compensation, “Equity proportion”, has increased constantly since the year 2002.

FIGURE 2. CEO COMPENSATION AND BOARD STRUCTURE

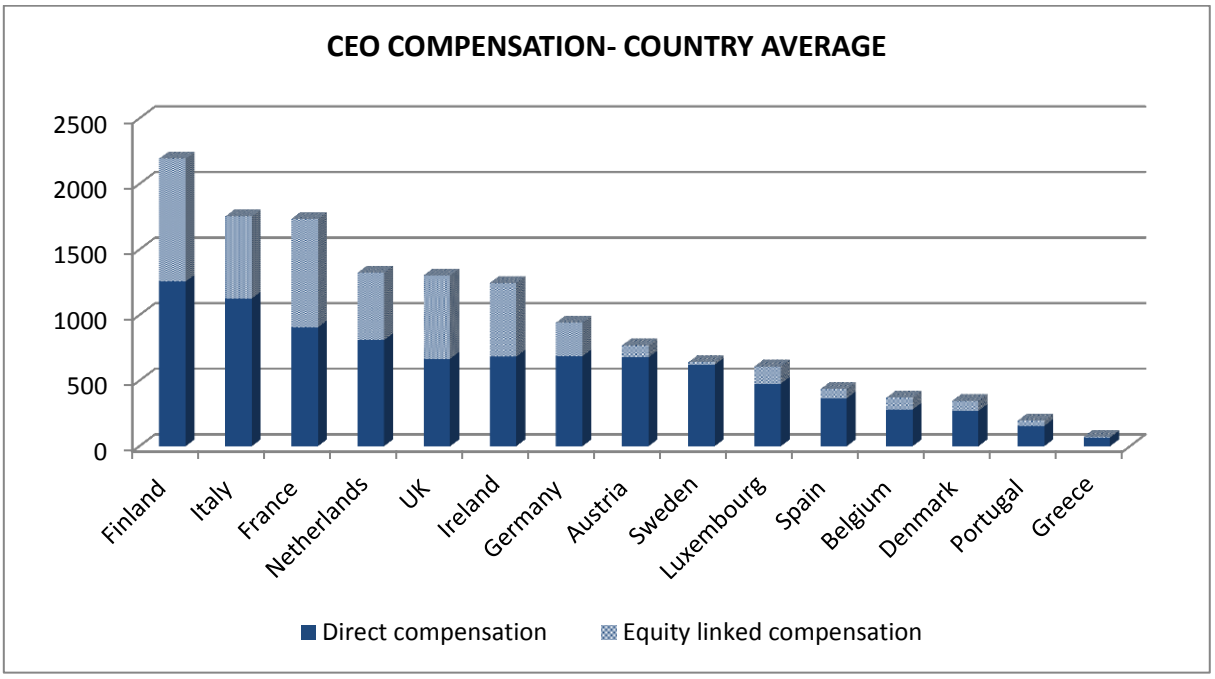


4.3 Country differences and convergences: the tendency towards a flexible and harmonized corporate sector in Europe

The great dispersion of the remuneration to European CEOs outstands in a country-based analysis. We observe big differences between firms and between countries. On average, Finnish, Italian and French CEOs receive the highest pay, while Greek, Portuguese and Danish CEOs receive the lowest total compensation in our sample (See Figure 3). However, median and average values differ considerably, both within countries and between countries. Austria, Finland and Italy are the countries with largest median

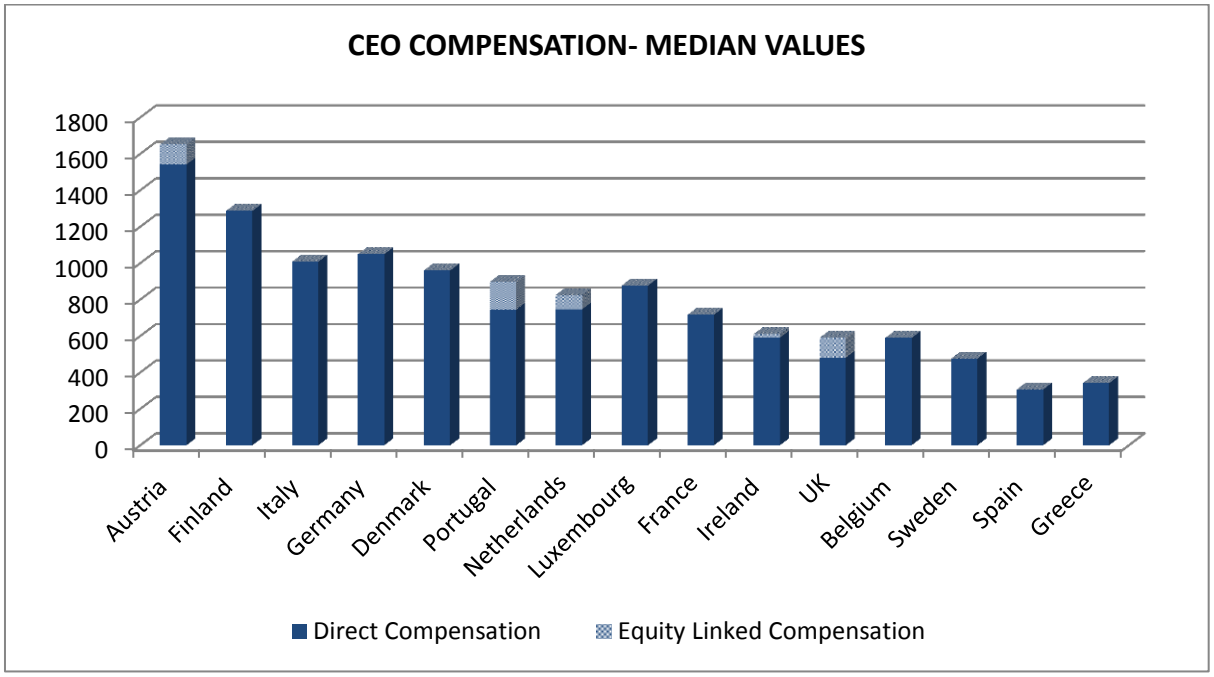
values, while Sweden, Spain and Greece are the countries with lowest median CEO Pay (Figure 4).

FIGURE 3. CEO COMPENSATION- COUNTRY AVERAGE



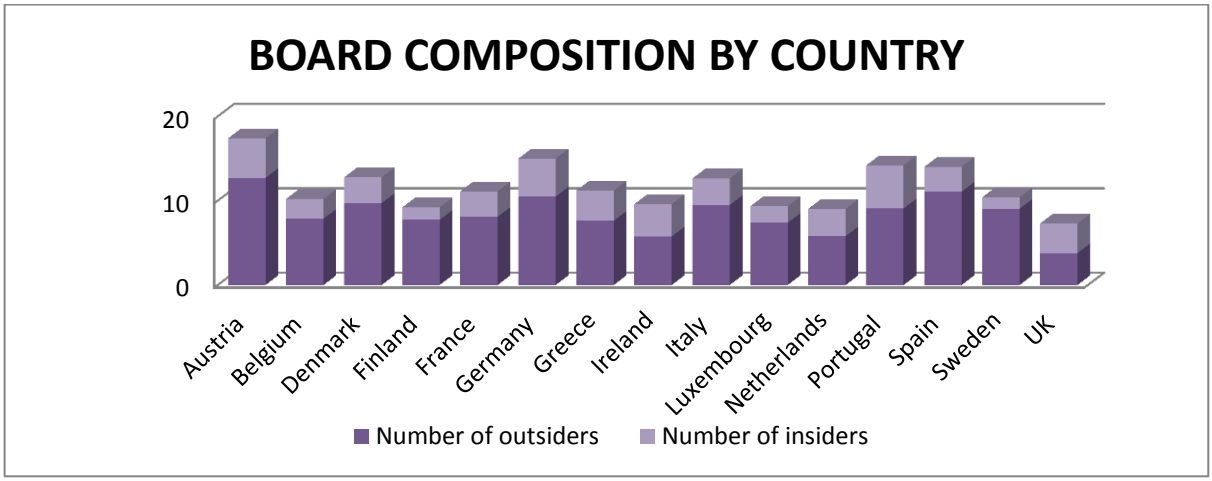
The fact that UK is not one of the countries where the average pay highest might be explained by the way the sample is constructed. UK firms amount to 62.7% of the firms followed by the data provider BoardEx (from which the data is obtained), which means that bigger and smaller firms are included. The rest of the countries have fewer observations, and one can expect that only the biggest firms of each country are part of our sample. Thus, the inclusion of smaller firms in the UK case, might draw the pay figures downwards. Also we have to note that the figures from smaller countries might be clearly influenced by some relevant firms in those countries (like Nokia in the case of Finland), that clearly drive descriptive statistics.

FIGURE 4. CEO COMPENSATION- MEDIAN VALUES



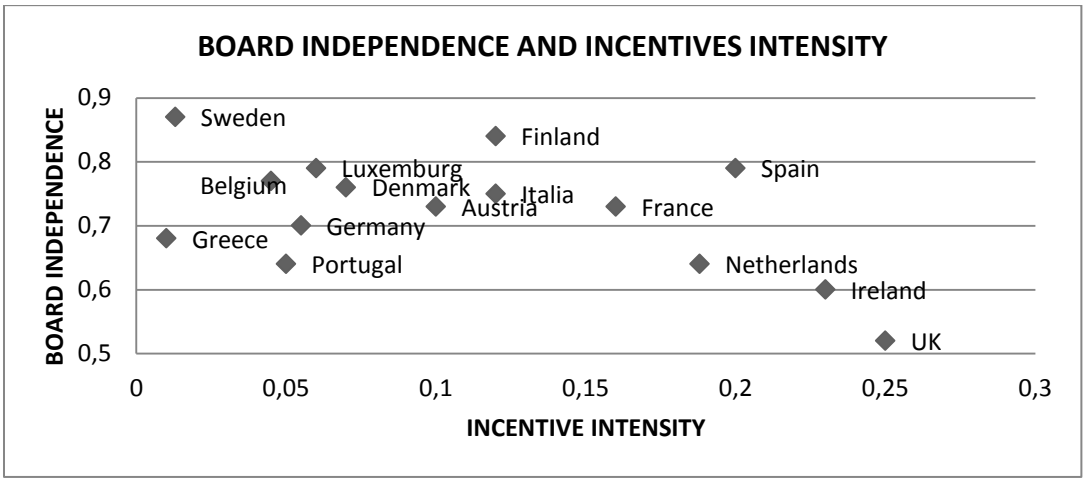
Board size also varies considerably between countries, as reflected in Figure 5 “Board Composition by Country”. Country based differences in board size and composition might be driven by the regulations in different countries. For example, Germany and Austria have a two-tier system of corporate governance, with a supervisory board on top of the management board, which might influence the number of directors. The supervisory board is formed by representative of the employees and shareholders, while the executive board is formed exclusively by members of the executive team. This duality might explain partly why Austria and Germany have the largest boards, while UK Ireland and Finland (where firms have more freedom to design their board composition) have the smallest boards of all.

FIGURE 5. BOARD COMPOSITION BY COUNTRY



Finally, in Figure 6, we present the join use of CEO incentive pay and the proportion of outsiders on the board. We observe that countries in the Scandinavian legal tradition are the ones with most independent boards, and lower CEO incentive pay. On the opposite place we find the countries from the anglosaxon legal tradition (UK, Ireland), with high levels of equity linked compensation paired with less independent boards. On average, and not taking into account the non random selection into equity linked compensation, those countries are the ones where the complementary use of both instruments is less accentuated. Besides, UK and Ireland are the countries in our sample, where the use of equity linked compensation is more extended. In 55% and 44 % of the observations in our sample, firms do grant some equity linked compensation to their CEOs. The average complementarity is more accentuated in countries with French origin legal tradition, like Spain, France and Portugal. In those countries firms grant equity linked compensation in 3%, 29% and 9% of the observations in our sample. However, this figure only presents country averages, and does not take into account the non random selection into equity linked compensation plans.

FIGURE 6. BOARD COMPOSITION AND INCENTIVE PAY



These representative data show that, despite efforts towards the creation of a single market and the harmonization of corporate codes of conduct and corporate law, disparities between countries still remain. These disparities have their origin in different economic realities, different cultural and economic tradition and different law origins, and cannot be dismissed when approaching the issue of corporate governance harmonization. Convergence is subject to path dependence (Hopt and Leyens, 2005), and the EU has opted for increasing flexibility within institutional settings (the recent changes in France and Italy allowing firms to choose between three different board structures and in Finland where firms can choose between a one tier or two tier board structures, are clear examples). This flexibility rests on soft law and the exercise of self regulation (the internal controls), as key elements to create a European Corporate Governance Framework, where firms with different governance requirements coexist and compete in an efficient Single European Market.

CHAPTER TWO.

COMMITTEES AS DRIVERS OF THE BOARD COMPOSITION-FIRM VALUE RELATION

1. INTRODUCTION

One of the key characteristics of recent studies on corporate boards is that they depart their attention from a unique function of the board- the monitoring of the executive team- adding the advisory role to their functions, and analyzing in which circumstances each function is prevalent (Coles, Daniel and Naveen, 2006; Lasfer, 2006; Adams and Ferreira, 2007; Boone, Field, Karpoff and Raheja, 2007; Drymiotes, 2007; Markarian and Parbonetti, 2007; Cheng, 2008; Link ,Netter and Yang, 2008).

The board of directors holds the authority to adopt or- as decision maker of last resort- put a veto on any decision adopted by the executive team of the firm. In this context, the board of directors has to review and approve strategies, and it also has to analyze the functioning and financing of the firm. This role – being decision maker of last resort- is relevant to prevent that the strategies adopted by the executive team are guided by the incentive to extract private rents, at the expense of the interest of the firm owners (shareholders).

Holding decision making rights (which shareholders delegate to the board automatically) is not alone enough for board members to accomplish their duties properly. Board members also need to have the correct incentives and the necessary information to perform efficiently their supervisory and advisory functions. In some cases- depending on how information is transmitted among board members- a certain kind of confrontation between both board functions can occur. Although it is generally true that boards with a majority of independent directors monitor better, members of the executive team face a trade-off when sharing information with the rest of board members (Adams and Ferreira, 2007). The board is able to provide better advice if members of the executive team share the information about the firm,

but, at the same time the revelation of this information helps the board to determine the number of available options and it increases the risk that the board interferes in the decision making process. Due to this trade-off, the shareholders might have to choose between a board with a larger number of independent board members, that would supervise more efficiently, and a more friendly board (with greater insider representation) that would encourage the advisory activity of board members.

In both cases, in order to monitor and advise efficiently, board members, especially outsiders, need to have information about the firm and the business environment. This information is - to a great extent – generated and transmitted within the committees in which board work is organized.

In the corporate governance literature, delegation of activities from the board to committees has been proposed as an organizational solution to excessively large (oversized) board problems. This way, firms have recently constituted committees like the audit, remuneration and appointments or strategy (some of them compulsory in many countries), for which there is evidence of an improvement of the monitoring function of the board (Klein, 1998; Reeb and Upadhyay, 2010). For example, Reeb and Upadhyay (2010) argue that this type of organization in committees allows solving communication, coordination and free riding problems, especially in boards with a large number of board members, and a larger participation of outsiders. They also point out plausible disadvantages associated to the use of committees, like the possibility of asymmetric information between board members, and the risk for individual board members to focus their effort on specific committee work at the expense of the general objectives of the board. Because of this type of disadvantages, the use of committees might not be appropriate in some cases, especially in firms with smaller boards and boards

with a greater proportion of outsiders.

Recent studies by Faleye, Hoitash and Hoitash (2011a and b) show how the efficiency of the board improves considerably through the use of committees, both in the monitoring task (2011a) and in the advisory task (2011b). However, these authors also stress the trade-off of this increased efficiency, as the increase in monitoring intensity (measured by a greater input of independent directors in monitoring tasks) reduces the efficiency of advising, and, more importantly, the global efficiency of the board. They do not find, however, any support of a reverse effect, as an increase in the advising activity of board members does not harm the supervisory intensity.

More importantly, the relevance of each type of function depends on certain characteristics of the firm and the business environment where it operates (See Raheja, 2005; Adams and Ferreira, 2007; Harris and Raviv, 2008; Coles et al, 2008; Link et al, 2008; Faleye et al, 2011a and b). This way, the scope or complexity of the firm operations, the chance for the manager to extract private rents, the asymmetric information about net present value of the projects proposed by the management team, the power, managerial ability and characteristics of the CEO, or the existence of incentives that align the interest of owners and insiders, are some of the factors that allow to estimate the firm specific monitoring and advising needs. As a consequence, these factors allow a detailed study of the different governance structures and their impact on firm value.

In this context, we propose and test the hypothesis that aggregate board composition, per se, is not the key factor to improve performance. It is rather the information transmission within committees– both monitoring and advisory committees- the relevant factor for the board to accomplish its

functions efficiently.

Our research analyzes how the participation of outsiders and insiders in committees allows better monitoring and advising to the management team, and, therefore, better governance. The relative importance of this monitoring and advising depends –as existing literature suggests- on firm and business characteristics, and on the relative strength of other corporate governance mechanism in place. Our contribution with respect to the existing literature is that we suggest that these monitoring and advising will be more efficient if information transmission is delegated to committees, as it will be within the committees where the outsiders will be more prone to acquire information and share their experience with the rest of the organization, contributing more efficiently to a better governance of the firm.

To analyze whether information transmission within committees improves the general efficiency of the board, we try to find empirical evidence of our two key hypothesis: (H1) The use of committees leads to value creation (especially in the case of over dimensioned or very independent boards) and (H2) the improvement in governance is not homogeneous along the firm spectrum: the use (and independence) of advisory committees is more beneficial in the case of complex firms and firms with growth opportunities, while firms facing greater agency concerns (like bigger firms, or firms with controlling CEOs) benefit from the use of monitoring committees.

For a test of the first implication, we analyze the relation between board independence and firm value, adding the internal functioning of corporate boards as key element of the analysis. We argue that the efficiency of independent boards hinges crucially on the smooth information transmission between members of the executive team and outside board members; and this

information transmission takes place in committees. Thus, the benefits of independent boards (if any) will be prevalent (significant) when the work structure of the board in committees, and the committee composition is adequate to allow this information transmission. To test this hypothesis we compare regression results from a benchmark value equation –where information on committees is excluded from the analysis- to the results from an augmented equation, where information on committees (their number and independence) is included. We expect the inclusion of this information in a value regression, where firm value is regressed on firm and governance characteristics, to have a direct and indirect impact on firm value. The direct impact can be measured by the sign and significance of the committee variables alone. The indirect impact has to do with the plausible bias in the benchmark equation due to missing information on committees. We check whether including information on committees changes the measured relation between board independence and firm value. If our hypothesis is correct, adding this information improves the impact and significance of the variable measuring board independence on firm value.

For a test of our second hypothesis (whether firms that adapt their internal structure in committees to their monitoring and advising requirements generate more value), we investigate whether monitoring and advising necessities -which are performed at a committee level- have a different impact on firm value, depending on the firms requirements for supervision and advice. To do so, we estimate a two-step maximum likelihood Heckman regression model, where we include in the first step factors that arguable contribute to the creation and design of monitoring and advising committees, and test whether these factors influence the creation and design of committees. In a

second step, we analyze whether the monitoring and advising committees have a direct impact on firm value.

We include the number and independence of monitoring and advising committees separately. Also in our sensitivity analysis we study separately firms for which monitoring and advising intensity differ. To do so, we split the sample by industry and firm size. In the first sensitivity analysis, we compare results for firms in new technology industries (which are arguably more complex and have larger growth opportunities) versus traditional industries. In our second sensitivity analysis we split the sample by firm size, as bigger firms face arguably greater agency concerns.

A two step maximum likelihood Heckman regression has been selected as the key econometric technique in the analysis. It has the clear advantage of controlling for the nonrandom design of committee structure, allowing estimating simultaneously the determinants of committee design and the joint impact of committees and board design on firm value. In our final sensitivity analysis, we depart from the Heckman regression model that has been used throughout the analysis, to account for dynamic heterogeneity and unobserved endogeneity with the use of a dynamic two step panel GMM system estimator.

We find that, when we account for the fact that firms adapt their board and committee structure to their monitoring and advising requirements, those firms with more numerous and independent committees have on average higher market Q, which is our measure of firm value. The use and independence of monitoring committees do not have a significant relation to firm value, but both the use and the independence of advising committees within firms have a positive impact on firm value. We do find that firms in the

new technology sectors- where we expect advising requirements to be stronger- benefit more from the use of advisory committees, than firms in the more traditional industrial sectors, and we do also find that firms with in the new technology sectors benefit from the intensive use of committees in general, which reinforces our initial hypothesis. Finally, we find that lager firms benefit more from having numerous monitoring committees (but the independence of these committees does not have a significant relation to firm value).

By contrast, our results show no significant relation between board (and committee) structure and firm value, in a dynamic two step panel GMM system, where we control for past performance, simultaneity and unobservable heterogeneity. This result is in line with recent econometric research (Wintoki, Linck and Netter, 2012), which analyses the lack of empirical evidence of a positive relation between board independence and firm value. However, due to the lack of suitable instruments, and the econometric problems that arise when estimating dynamic panel models in corporate finance (Flannery and Hankins, 2013) we interpret the results from this later sensitivity analysis with caution.

Our study contributes the literature on the impact of board composition on firm performance in different ways. First, it contributes to a new generation of studies that analyzes the impact of board composition on firm value, where the work in committees, rather than the overall composition of the board is analyzed. Our contribution with respect to this extent of the literature is that we analyze the joint impact of committees and board independence on firm value, rather than focusing on one or the other alone. Looking at the joint impact of board and committee design we take into account that board composition and committee structure and intrinsically related and apparently similar boards can perform their duties very differently,

depending on the design of their internal organization. By the same token, boards with apparently similar committees might differ in their authority to implement committee's advice and resolutions, if their degree of aggregate independence varies.

The second contribution is that we take into account differences in firm characteristics and business environments, and allow for heterogeneity in governance design. We test how information transmission within committees adds value to board independence in firms with different growth opportunities, agency problems, etc. We depart from the "one board fits all" type of analysis. This departure improves the explanatory power of our results and eliminates biases resulting from unobserved heterogeneity in business environments or board design. More importantly we use a two-step maximum likelihood Heckman regression model to appropriately estimate the relation between governance and performance. When analyzing how firms adapt their committee structures to their monitoring and advising requirements, the Heckman selection model accounts for the fact that the decision to set up committees is not random, but rather a self-preferred choice by the board. Incurring a correction for self-selection eliminates the plausible bias due to non-random board design.

The third contribution refers to the use of European Data. Previous studies on the impact of committees on board size (Faleye et al 2011b) analyze US data. Other studies with European Data (like Faleye et al. 2011a), use the information on committees within the data to characterize the board or the directors, but do not explicitly model the impact of committees on board composition or firm value.

The rest of the chapter is organized like follows. In section 2 we discuss the related literature and develop our hypotheses. In section 3 we describe the dataset for our empirical analysis. In section 4 we present the research strategy and results. Section 5 concludes.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The seminal studies on the impact of board composition on firm value focused on the monitoring role of boards (Jensen and Meckling, 1976; Lipton and Lorsch, 1992; Jensen, 1993). These studies analyzed how different board characteristics, or different board actions impact firm results, being these actions the solely results of the monitoring function. The underlying theory relies on the board to discipline managers and solve the plausible conflicts between owners and managers (John and Senbet, 1998). One of the most relevant proposals of this extant of the literature, is to increase the degree of board independence as a way to improve its efficiency in certain supervisory tasks, and, therefore, in business performance. They also proposed boards with a reduced number of board members, to avoid inefficiencies due to free riding and lack of coordination and control. These suggestions have been so widely implemented, that it is nowadays very difficult to find a Code of Good Governance which does not include among its guidelines, the recommendation to reduce the number of board members or increase the presence of independent directors on the board, even when there is no consensus in the academic literature about the benefits of smaller and more independent boards (Wintoki et al, 2012; Bebchuck, Cohen and Spamann, 2010).

This lack of consensus on the benefits of board independence for firm value has generated a second generation of academic papers trying to explain the apparent lack of relation between board independence and firm value. This lack of empirical relation has been explained by the trade-off in information transmission (Adams and Ferreira, 2007); the fact that board composition is endogenously determined (Raheja, 2005 and Harris and Raviv, 2008); the high costs for outsiders to obtain the necessary information to monitor and advise efficiently (Boone et al, 2007; Coles et al, 2008 and Link et al, 2008); the role of the CEO to control de information available to board members (Song and Takor, 2006) and even the econometric techniques used in previous empirical studies (Wintoki et al, 2012) [30].

Adams and Ferreira (2007) argue that independence could be harmful if insiders lack the incentives to reveal information to independent board members. This lack of incentive might arise, as informed independent board members could have the chance to interfere in management decisions. Raheja (2005) and Harris and Raviv (2008) present structural models where board composition (size and independence) is determined endogenously and depends on specific characteristics of the board, of the firm and of the business environment where it operates. They stress the monitoring role of board members, not modeling the advisory role so explicitly. Both Raheja (2005) and Harris and Raviv (2008) characterize the interactions between outsiders and insiders as key determinants of board composition. To maximize shareholders wealth, outsiders have to search for relevant information about the firm, at a

[30] Wintoki et al (2012) present an extended literature review on the papers that analyze the impact of board independence on firm value, noting the lack of consensus in the literature, and providing a plausible explanation for this lack of consensus, based on the econometric techniques used in the analysis. They argue that the apparently contradictory results might be driven by not taking into account the dynamic aspect of the board/performance relation. They argue that once past performance, simultaneity and unobserved heterogeneity are controlled for, there is no causal relation between board structure and firm performance, which is in sharp contrast to the findings of some earlier studies

cost. While insiders are the source of information to outsiders, they can extract private rents from communicating or not this information to outsiders. Harris and Raviv (2008) model the equilibrium of power between outsiders and insiders, which in turn determines the ultimate control of the board, delegation of authority, information transmission, decision making, and ultimately the optimal board structure. Raheja (2005) incorporates to the monitoring function the evaluation of insiders as potential successors of the CEO, inferring different optimal board structures for different types of firms.

Almost simultaneously, three different empirical papers (Boone et al, 2007; Coles et al, 2008; and Link et al, 2008) share the idea that the supervisory and advisory function are key board functions, and that the costs and benefits of monitoring and advising, and ultimately, the optimal board design, depend on certain characteristics of the firm and of the business environment where it operates.

All three works coincide in suggesting that the need of advice from the board to the CEO increases with the degree of complexity, which is related to factors like the firm diversification, firm size, leverage or age. They propose more independent boards, concomitant to increased complexity to improve efficiency and increase firm value.

On the other hand, all three works also notice that the cost for the independent directors to obtain information to perform their functions increases with complexity, leading to a reduction in board size and independence. Boone et al. (2007) specifically link this cost to the monitoring activity, while Coles et al. (2008) and Link et al. (2008) extend their reasoning to the advising activity.

Boone et al (2007) and Link et al (2008) also address the role of

boards to prevent rent extraction by the CEO: the benefits derived of an increase in the monitoring intensity are higher when the management chances to extract private rents are high. Song and Takor (2006) coincide in the idea that the CEO controls the information available to board members. Taking into account the career concerns of the CEO and board members, they conclude that independent boards do not always constitute the optimal board structure.

All these theoretical and empirical papers point out that both the monitoring and advising functions of the board are closely related to the availability of information to outsiders, as well as to the specific characteristics of the board, the firm and the business environment where it operates. In what follows we address specifically, how committees allow the information transmission between insiders and outsiders (section 2.1), and whether differences in information transmission between the monitoring and advising functions of board members exist, and whether they are sensible to specific board and firm characteristics (section 2.2)

2.1 The use of committees, board composition and firm value

If we have agreed that information transmission is relevant for the board members (specially for outsiders) to perform their monitoring and advising functions effectively, in what follows, we analyze the specific role of the committees in transmitting this information, and therefore, in enhancing the contribution of outsiders to firm value.

Some research papers show how the activity of the board is determined by board size and independence. Coles et al. (2008) and Linck et al. (2008) coincide in that board size and independence are key factors to improve efficiency. However, an excessive number of independent directors can be

detrimental to board cohesiveness and to the board capacity to adopt strategic decisions. It can also generate coordination, communication and asymmetric information problems.

According to Reeb and Upadhyay (2010) the use of committees facilitates delegation of authority and helps to mitigate coordination and free riding problems which can arise in larger and more independent boards. The costs of committees stem from information asymmetries, especially in smaller boards or in boards with greater insider representation. In fact, these authors find a positive influence of the use of committees, both monitoring and advising committees, only in the case of larger boards and boards with a greater proportion of independent members.

With respect to the participation of outsiders in committees, Faleye et al. (2011a) find that the quality of monitoring improves when independent directors serve on at least two of the three principal monitoring committees.

In a subsequent paper, Faleye et al. (2011b) find that the participation of outsiders in advising committees allows them a better understanding of the firm, increasing their capacity to make informed decisions. They argue that effective advising benefits from a certain degree of specialization, with a critical mass of independent directors dedicated to the firm supervision. This would allow the CEO to develop a closer relation, based on trust, with a complementary group of independent directors, facilitating the information transmission and provision of advice. Their empirical results show that the use of monitoring and advising committees leads to an improvement in board monitoring and advising; however, they also find that intensive monitoring by the board erodes the trust of the CEO to transmit information, leading to worse advising and a negative effect on value creation.

These arguments lead us to our first hypothesis: *The use of committees in general and supervisory and advising committees in particular, improves the general efficiency of the board and leads to value creation.*

2.2 Monitoring and advising committees, board composition and firm value

In a second step (and once the adequacy of the use of committees has been analyzed), we investigate an hypotheses that has been suggested in various previous theoretical and empirical papers, based on the existence of a plausible trade-off between the two key board functions, monitoring the management team, and providing advice on key strategic decisions. The hypothesis that we investigate is whether the monitoring and advising intensities - which are performed at a committee level- have a different impact on firm value, depending on the firm requirements for supervision and advice.

The theoretical model proposed by Adams and Ferreira (2007) states that there is a trade-off between both board functions, which arises because of the information transmission between outsiders and insiders. When inside board members reveal sensible information to the board, the board can provide better advice, although this information allows the board to interfere in the decision making process of the management team. This is why the CEO can be reticent to reveal information, when the board of directors is too independent from the management team. Due to this trade-off, to emphasize board independence alone can be detrimental to firm value. Other factors, like the CEO benefits of control, the alignment of interest between managers and the board, firm complexity, and business environments can be relevant in a model where the importance of the monitoring and advising roles are decisive in the design of board structure.

Adams (2009) herself obtains empirical evidence of this trade-off using a survey of Swedish CEOs and board members. In her research shows that board members who perceive that they monitor more intensively, might not acquire the necessary compromise to provide effective advice, and that the personal links between CEOs and board members enhance trust, exchange of information and value creation.

A recent extant of the literature has been dedicated to analyze what constitutes an efficient board, in base of this trade-off between the monitoring and advising functions, and to describe in which circumstances is one function prevalent over the other (Coles et al, 2006; Lasfer, 2006; Boone et al, 2007; Drymiotes, 2007; Markarian and Parbonetti, 2007; Cheng, 2008; Link et al, 2008).

We translate the current debate on the trade-off between board functions to the committee level, and analyze whether the use of committees might help to alleviate this trade-off. As Adams (2009) suggests, a certain degree of specialization is required for outsiders to perform their monitoring and advising duties efficiently. We argue that the use of committees facilitates this specialization, as the use of committees facilitates the division of director activities (monitoring and advising), both among directors, and for each individual director among his committee tasks. This way, boards that adapt their internal design in committees to the firm monitoring and advising requirements will be more effective and generate more value.

Faleye et al (2011a and 2011b) suggest variables like firm complexity or the power and influence of the CEO to measure advising intensity, and free cash flow, institutional ownership, and analyst coverage, to measure the monitoring intensity. Reeb and Upadhyay (2010) propose firm

complexity and the number of board meetings as key variables to measure the existence of coordination and communication problems. In short, all these variables are proxy for some of the relevant characteristics of firm, of the CEO and the management team, or of the business environment where the firm operates, that ultimately determine the firm monitoring and advising requirements.

Thus, boards that adapt their internal structure in committees to their monitoring and advising requirements will generate more value. This second hypothesis can be summarized in two testable implications:

In complex business environments, where the advising requirements are significant, the intensive use of advising committees improves firm value.

In business environments, where the monitoring requirements increase, the intensive use of supervisory committees leads to value creation.

3. THE DATA

For this study, we have constructed a dataset that contains information on the main western European economies for the years 1999-2009. To construct this dataset, we merge three different datasets. We use two datasets on corporate governance supplied by BoardEx (one of them containing information on firm governance and CEO compensation, and the other one containing information on committees), and merge the resulting panel with information on firm characteristics and market conditions from the data supplier Thomson.

3.1 Information on committees

For every firm in our sample, the first BoardEx dataset provides the name and composition of all the board committees reported by the board of directors. Along with firm and committee name, the data contains additional information on committee composition, such as the number of directors working on this committee, the committee gender ratio, the committee nationality mix, and whether CEO is committee member. It also informs on the average time in role of committee members and the average number of additional board positions of committee members.

When available, the dataset also provides information on the number of executive directors and the number of independent directors in each committee. Also with attrition, the original dataset provides information on average compensation of committee members. The original dataset contains 61 714 observations. Each observation corresponds to a committee-firm-year register. The dataset contains information on 22 184 firms. For every firm, we have information on an average of 2.78 committees per year. For the last years of the sample (from 2005 onwards) our sample contains a larger number of observations and more firms are registered. In Table 1 we present the yearly distribution of observations and firms in the original committee dataset.

TABLE 1. YEARLY DISTRIBUTION OF INFORMATION ON COMMITTEES

Yearly distribution of the original dataset on committees, where each committee within a firm is a separate observational unit. For every year in our sample, we present the number of observations (Obs.), their frequency (Frequency) and the cumulative distribution of the sample (Cum.). The frequency refers to the ratio of the number of observations by year to the sample size, and the cumulative distribution refers to the proportion of observations up to (and containing) each particular year. We also include in this table the number of firms for which we have information on committees (Firms), their frequency by year (Freq. Firms), and their yearly cumulative distribution (Cum. Firms).

Year	Obs.	Frequency	Cum	Firms	Freq.Firms	Cum. Firms
1 999	1 686	2.73	2.73	612	2.76	2.76
2 000	2 504	4.06	6.79	912	4.11	6.87
2 001	3 308	5.36	12.15	1 209	5.45	12.32
2 002	3 979	6.45	18.6	1 443	6.5	18.82
2 003	4 939	8	26.6	1 746	7.87	26.69
2 004	5 818	9.43	36.03	2 071	9.34	36.03
2 005	6 900	11.18	47.21	2 493	11.24	47.27
2 006	7 653	12.4	59.61	2 804	12.64	59.91
2 007	8 441	13.68	73.29	3 060	13.79	73.7
2 008	8 498	13.77	87.06	3 040	13.7	87.41
2 009	7 988	12.94	100	2 794	12.59	100
Total	**61 714**	**100**		**22 184**	**100**	

The name of each committee allows us to classify committees into three different categories: monitoring committees, advising committees and mixed committees. Our original dataset contains 697 different committee names. Most committees have common names that are directly related to their functions (like Audit, Nomination, Remuneration, etc.). The group of observations with the 23 most common committee names contains more than 86% of the total number of observations.

On the other hand, some of the committees have a name that appears only once in the whole data set: we find, for example, only one observation where the committee name is “Technology and Production”, and only one observation where the committee name is “Transport Decisions”. Although there are numerous unique committee names, they only correspond to a small fraction of the total number of observations (the 14% remaining

observations have unique or relatively scarce committee name).

In Table 2 we present the frequency of the 23 most common committee names. For every committee name, we present the total number of observations where this committee name appears (irrespective of the year). The last raw of the table presents the aggregation of the remaining 672 committee names. In the second column of the table our final classification of committees into Monitoring/ Advising and Mixed groups is presented. A detailed description of how we have classified the committees into those subgroups is presented in Table 3 below.

TABLE 2. COMMITTEE NAMES – TYPES OF COMMITTEES

In table 2 we present the total distribution of the committees in the original committee dataset. Committee Name is the original committee name that appears in the company annual reports. Committee Classification refers to our classification into monitoring/advising/mixed groups. For each original committee name we also present the number of observations in the committee database (Number of Observations) and the proportion of each committee name into the total sample (Percentage).

Committee Name	Committee Classification	Number of Observations	Percentage
Audit	Monitoring	19 223	31.15
Remuneration	Monitoring	14 763	23.92
Nomination	Monitoring	9 016	14.61
Compensation	Monitoring	1 744	2.83
Executive	Mixed	1 569	2.54
Nomination and Remuneration	Monitoring	943	1.53
Remuneration and Appointments	Monitoring	792	1.28
Strategy	Advising	668	1.08
Risk	Advising	448	0.73
Finance	Advising	420	0.68
Nomination and Compensation	Monitoring	394	0.64
Investments	Advising	383	0.62
Personnel	Mixed	377	0.61
Management Engagement	Monitoring	359	0.58
Audit and	Monitoring	349	0.57

Compliance			
Mediation	Advising	331	0.54
Internal Control	Monitoring	297	0.48
Nominating	Monitoring	296	0.48
Compensation and	Monitoring		
Appointments		255	0.41
Audit and Risk	Monitoring	238	0.39
Chairman's	Advising	230	0.37
Appointments	Monitoring	211	0.34
Corporate	Mixed		
Governance		204	0.33
Others		8 204	13.29
Total		**61 714**	**100**

As we observe from Table 2, as much as 69.68% of the observations correspond to the Audit, Remuneration and Nomination committees alone, suggesting (as we will show later in detail) that monitoring committees are the most numerous in our sample. Only 2.43% of the observations correspond to the most common advising committees (Strategy, Risks and Investments). Being advising committees clearly underrepresented in our sample (and in the corporate sector in general), they become the differential feature among firms in our study. Because the information required for efficient advice is subjective by nature and very difficult to quantify, firms with a strong need for advice by the board require a more efficient information transmission. We argue that those firms will benefit more from the use of committees in general (and the use of advising committees in particular).

To analyze the data, we have classified committees into different subgroups, according to committee name. We aim to classify the committees into three key groups- advising, monitoring and mixed- depending on the committee function. However, in lack of a key committee function, our classification is based solely on the committee name, which is the only information available in our dataset. Still, as mentioned before, most committees have common names, usually related to their function (like audit,

remuneration or nomination), which allow us to classify the committees into monitoring, advising and mixed committees[31].

Our committee classification is presented in Table 3. For each classification, we present the number of observations (number of committee-year observations within that group), their percentage of the total sample, the average number of committee members, the average number of executive directors, the average number of independent directors and the percentage of committees within each group where the CEO is a committee member.

TABLE 3. COMMITTEE CLASSIFICATION

In this table we present our classification of committees, according to their name and function. In Table 3A, we present a broad classification into nine different groups. In Table 3B, we cluster our original classification into seven different groups, merging the groups containing "Nomination", "Remuneration" and "Nomination and Remuneration" committees into a single group called "Remuneration and Nomination". Finally, in Table 3C, we present the more stylized classification into Monitoring, Advising and Mixed Committees. In the regression analysis, the Advising and Mixed committees are merged into a single "Advising" group. The number of observations (Obs.) refers to the number of times that each committee name appears in the data. Frequency distribution refers to the proportion of that number to the sample size, while the cumulative distribution refers to the sum of all frequencies up to (and including) that particular name. The average number of committee members (members), the average number of executive directors within the committee (eds), the average number of independent directs (ids) and the percentage of the committees, where the CEO is committee member (CEO) are presented in columns 3 to 6

Committee Name	Obs (1)	Percentage (2)	Members (3)	Eds (4)	Ids (5)	CEO (6)
Table 3.A. Broad Committee Classification						
Audit	22 110	35.83	3.32	1.2	2.2	3.56
Nomination	10 354	16.78	3.9	1.2	2.1	30.78
Executive	2 182	3.54	4.58	2.85	2.55	54.77
HR	924	1.5	3.54	1.46	2.2	8.87
Organisation	2 689	4.36	3.9	1.8	2.16	27.15
Remuneration	16 901	27.39	3.15	1.24	2	6.17
Remuneration & Nomination	2 881	4.67	3.4	1.17	2.1	8.78
Strategy	3 673	5.95	4.39	1.9	2.36	39.99
Table 3.B. Committee Classification						

[31] A committee classification containing all 672 committee names can be provided upon request

Audit	22 110	35.83	3.32	1.2	2.2	35.64
Executive	2 182	3.54	4.58	2.85	2.55	54.77
HR	924	1.5	3.54	1.46	2.2	8.87
Organisation	2 689	4.36	3.9	1.82	2.16	27.14
Remuneration & Nomination	30 136	48.83	3.4	1.23	2.06	14.87
Strategy	3 673	5.95	4.39	1.92	2.36	39.99
Table 3. C. Monitoring, Advising and Executive Committees						
Advising	6 362	10.31	4.1	1.88	2.28	34.56
Mixed	3 106	5.03	4.2	2.73	2.44	41.11
Monitoring	52 246	84.66	3.38	1.24	2.12	10

Table 3 is divided into three different panels (3.A, 3.B, 3.C), each one corresponding to a different committee classification. To present our key results we have simplified our classification into monitoring and non-monitoring (mixed and advising) committees.

In Table 3.A. we present an extensive committee classification, which contains 8 committee types. We have grouped all committees into this broad classification according to their name. This way, for example, the “Audit” group in the 3.A classification includes committee names like “Audit”, “Audit and Control”, “Audit and Compliance”, “Internal Control”, etc. The classification presented in Table 3.B is more restricted (we have aggregated three groups into one, once again, based on closeness of committee names or similarities of committees functions). Finally, the classification presented in Table 3.C only contains information on whether the committee has a monitoring, advising or mixed nature. In the first extensive classification- see table 3.A- committees are grouped into the following groups: (1) audit gathers all committees whose name is related to audit, accountancy and control (2) nomination contains all committees that have a name related to nomination of executives and directors, succession plans, CEO replacements etc. (3) executive: in this group we have included all committees that have a name related to executive,

corporate governance design, executive management etc., (4) Human resources contains committees that are related to personnel policies, personnel remuneration etc., (5) Organization contains all names that would be related to firm operational management, like general purposes, safety, corporate social responsibility etc., (6) Remuneration contains all observations where the committee name is related to CEO and executive remuneration (7) Remuneration and nomination contains all observations where the committee name is related simultaneously to executive and CEO remuneration and director and executive appointments, nomination, succession plans etc. (8) Strategy contains all committees that have a name related to firm strategy, like mergers, strategic plans, expansion, development and marketing strategy etc.

In this broad classification, we have created a sufficient number of groups, in order to keep track of the original committee names and functions. For example, we have three different, but much related subgroups: “Nomination”, ”Remuneration” and “Nomination and Remuneration”. For our current research, we pool these three subgroups in a join group named “Nomination and Remuneration” in table 3B. We consider that those groups are monitoring in nature, as their role (we argue) is to control that the CEO does not extract excessive rents. Remuneration and Nomination committees monitor the CEO by fixing CEO remuneration (linking pay to performance), and by appointing and replacing CEO, executives and directors (as risk of replacement can be perceived as a strong disciplinary device).

In Table 3.B we present the same broad classification as in 3.A, but with the functions of “Nomination” “Remuneration” and “Remuneration and Nomination” gathered into a single group “Remuneration and Nomination”.

The most restricted classification in Table 3.B contains only six types

of committees (from the original eight). These committee types are (1) audit (2) executive (3) human resources (4) remuneration and nomination (5) organization and (6) strategy

The Organization and Strategy groups are also very close to each other. Both relate to the board advising function. We have tried to include into the strategy group all committees whose name suggests firm long term policies or clear strategic planning, while we have tried to include into the organization group the committees that have a name related to daily management, firm organization, etc. The committees in the Organization and Strategy groups are pooled in the final classification (Table 3.C) into the general group “Advising committees”.

Table 3.C presents the most stylized committee classification. Because the key functions of the board of directors are to monitor the management and provide key strategic advice, we have created a classification, where committees can be (1) monitoring (2) advising or (3) mixed, depending on their key function. We have included in the monitoring group all committees related to Audit, Remuneration and Nomination. The advising group contains strategy and organization committees, and the third group, the executive, contains all committees in the human resources and executive groups. This third group is a “mixed group”, which contains committees that share both the monitoring and advising functions. It contains 5% of the observations of our sample. The committees included in this group are those whose name is related to corporate governance design, management, and human resources. Some of the committee names included in this group are “Executive”, “Personnel”, “Human Resources“, “Corporate Governance” and “Management”. Up to 50.52% of the observations within the committee type mixed are those where the committee name is “Executive”. Except for the

"Executive" (1569 Observations) and the "Personnel" (377 Observations), the rest of the committees names in this group are underrepresented in our sample. Following previous research, we use in our regressions a binary committee classification (monitoring- non monitoring committees). The non-monitoring group contains all the mixed and advising committees from table 3C.

In this original dataset, the committee-year is the unit of analysis. This way, for example, a firm with a board organized into three committees in a certain year, appears three times in the original dataset. We aggregate this information at firm level, in order to obtain only one observation per firm year. For every firm in our sample, we obtain this way the following information: the number of committees that each firm has in its board (Nr. Of Com.), the average outsider ratio, which we calculate as committee size minus number of executive directors divided by committee size (COMOUTSIDER), the average size of the committees that conforms firm's board (COMSIZE), and the proportion of committees where the CEO is committee member (CEOMEMBER). We use the two first variables (Nr of Com. and COMOUTSIDER) as our key explanatory variables, while the latter ones (COMSIZE and CEOMEMBER) are used to check the robustness of our results.

We also calculate for each firm the number of monitoring committees (Nr. Of Monit. Com.), the number of advising committees (Nr. Of Adv. Com.), and the number of mixed (Nr. Of mixed) as well as the (firm) average proportion of outsiders in the monitoring, and non-monitoring committees (Monint. Indep., Adv. Indep. And Mixed Indep.). The original dataset also provides information on whether the CEO participates in each committee. We calculate for every firm the average number of committees where the CEO is committee member (CEOMEMBER), the average of

monitoring/advising/mixed committees where the CEO is committee member (CEOMON, CEOADV, CEOMIXED). In our regression analysis we simplify this classification further, using the number, proportion, size and CEO participation of the monitoring and advising committees, containing the advising group the sum of the advising plus the few observations from the mixed group.

3.2 Information on firm governance

The second data set provided by BoardEx, contains firm level information. For every firm in the dataset, BoardEx provides data on board composition and CEO compensation, and average number of board positions of board members. BoardEx provides the number of board members (BOARDSIZE), and the number of executive directors. We use this late variable to construct our measure of board independence, as board size minus number of executive directors divided by board size (OUTSIDER).

To further analyze board composition, we have created the dummies ODB, outsider dominated board, which takes the value 1 if the proportion of outsiders in the board is strictly larger than 0.5, and SUPERMAJORITY, which takes the value one if the proportion of outsiders is equal or larger than 0.7

BoardEx also includes information on CEO pay, which we use to proxy to CEOs incentive, using Wealth Delta, which is the sensitivity of CEO wealth to a dollar change in stock price. Using information on the Job Title of the CEO, we create a dummy variable that takes the value 1 if the CEO is also Chairman of the Board (CHAIRMAN).

Finally, we construct the variable INTERLOCKING, as the average number of additional board positions in quoted firms of all the members of the

Board. BoardEx also provides a sectorial classification which we use in our definition of New Technology firms.

3.3 Information of firm characteristics

Finally, from the data provider Thomson, we obtain firm and market values, which we use to characterize the firm specific, market and business environment conditions. From the data provider Thomson we obtain the following variables: market capitalization (in mill. of dollars), total debt (in mill. dollars), total assets (in mill. dollars), common equity (in mill dollars), number of shares outstanding, ownership concentration (proportion of shares in hands of insiders, where insiders includes officers, pension and benefit plans, individuals who hold 5% or more of the outstanding shares and shares held in trust), and SIC industry classification (4 digit sic codes).

With this information we construct our measure of firm value (Q), which is defined as the ratio of the sum of the firm total assets plus market capitalization minus common equity, divided by the total assets of the firm.

As explanatory variables in our analysis we use LEVERAGE, defined as total debt divided by the sum of market capitalization plus total assets minus common equity; OWNERSHIP which is the ratio of the number of closely held shares divided by the number of common shares outstanding; ASSETS (we use the log of total assets) and eight industry dummies, based on the two digit sic-codes- industry classification.

3.4 The dataset

The dataset that we obtain, merging information from these three

different sources contains information on a representative sample of European firms (2 029 firms), and it contains as much as 11 517 observations. From those, 20% of the observations (2 310 observations) correspond to 210 firms that appear all years in the sample. Even when France and UK are the countries with the largest number of observations (together they represent 71.22% of our sample), all countries included in the analysis have a significant number of observations. Every country in the data has observations in all years in our sample. The countries included in the analysis, the frequency and the number of firms in each country are presented in Table 4.

TABLE 4: OBSERVATIONS BY COUNTRY

Table 4 presents the distribution of the data by country in the panel data constructed for the regression analysis, where a firm-year is the basic observational unit. The first column (Frequency) presents the total number of observations for each country. Percentage refers to the proportion of each country number of observations to the total sample. The fourth column, number of firms, presents the total number of firms by country in the sample. The last column, firm-percentage, refers to the ratio of firms by country to the total number of firms.

Country	Frequency	Percentage	Nr. of firms	Firm-Percentage
Austria	88	0.76	33	1.63
Belgium	255	2.22	38	1.88
Denmark	59	0.51	17	0.84
Finland	49	0.43	11	0.54
France	1 110	9.65	197	9.72
Germany	534	4.64	113	5.58
Greece	97	0.84	19	0.94
Ireland	346	3.01	56	2.76
Italy	456	3.96	79	3.9
Netherlands	432	3.76	78	3.85
Portugal	93	0.81	21	1.04
Spain	394	3.42	70	3.46
Sweden	508	4.42	97	4.79
United Kingdom	7 083	61.57	1 197	59.08
Total	**11 504**	**100.00**	**2 026**	**100.00**

Descriptive statistics of the key variables in our analysis is presented in Table 5. As we see from Table 5, an average firm in our sample has a board of 9.1 members, and the average number of committees per board is 2.8. Only 20% of the boards in Europe are dominated by insiders, being outside directors common norm in European firms.

TABLE 5. SUMMARY STATISTICS

Descriptive statistics of the variables in the analysis. For each variable we present the number of observations (column 2), mean (column 3) and standard deviation (column 4), and the minimum (column 5) and maximum (column 6) values.

Variable	Obs	Mean	Std. Dev.	Min	Max
Q	10 606	1.896581	2.733712	0.038	128.82
Leverage	10 599	0.1684	0.16882	0	0.972
Interlocking	11 517	3.886	2.102	1	18.33
Ownership	8 511	0.28186	0.2377	0	0.9389
Total Assets	10 847	23 123.59	143 721.7	0.0074	3 586 851
Wealth Delta	9 450	165.848	748.8053	0	18 418
Chairman	11 517	0.2344	0.4236	0	1
Outsiders	11 517	0.6191	0.1799	0	0.9615
ODB	11 517	0.7989	0.400	0	1
Supermajority	11 517	0.3303	0.4703	0	1
Board size	11 517	9.1684	4.346	2	36
Number of committees	11 517	2.8342	1.019	1	11
Number of monitoring com.	11 517	2.416	0.745	0	8
Number of advisory com.	11 517	0.277	0.6199	0	8
Number of mixed com.	11 517	0.1404	0.376	0	3
Proportion of monitoring com.	11 517	0.8843	0.206	0	1
Proportion of advising com.	11 517	0.07266	0.155	0	1
Proportion of mixed com.	11 517	0.0430	0.1263	0	1
Average com. size	11 517	3.3699	1.154	1	15
Average monitoring com. size	11 517	3.292	1.1768	0	15
Average advising com. size	11 517	0.86915	1.88	0	15
Average mixed com. size	11 517	0.5604	1.632	0	15
Average com. outsider rate	5 286	0.6019	0.2255	0	0.9333
Average monitoring outs. rate	5 286	0.5224	0.3176	0	0.9230
Average advising outs. Rate	5 286	0.1413	0.2744	0	0.933
Average mixed outs. rate	5 286	0.0598	0.189361	0	0.91666
Average CEO com. membership	11 517	0.1344	0.2643	0	1
Av. CEO memb.in monit.com.	11 517	0.1143	0.3182	0	1
Av. CEO memb. in adv. Com.	11 517	0.154	0.3614	0	1

In Europe, monitoring committees are more numerous in general than advising or mixed committees. The average firm has 2.4 monitoring committees, while only 0.27 advising committees. Besides, the monitoring committees are usually larger in size (3.32 members compared to an average of 3.28 members of the advising committees)[32], and more independent (69% of outsiders in an average monitoring committee, while the average advising committee has a proportion of outsiders of 61.81%). This strong presence of monitoring committees in European firms, along with a board independence rate of 61.91% suggests that preventing rent extracting is the key function of European boards.

Our sample corroborates the tendency recommended by an extant of the academic literature towards smaller and more independent boards. From table 6, we observe that board size has dropped from 10.34 to 8.74 in our sample, and the average outsider rate has increased from 58.6% to 63.1%. These changes reflect tendency within firms, but also the fact that new firms are added to the sample every year. To control for the larger coverage of the latest years in our sample, we calculate the average board size and independence for the 210 firms that appear all years in our sample. For those firms, the average board size was 10.13 members in 1999, board size in 2007 was on average 9.99 members, and the average size in 2009 was 9.6 members. Those firms (probably because they are larger firms) also had a greater tendency towards independence: from 58% of outsiders on their boards in 1999 to 65% in 2007 and 67% in 2009.

On the other hand, we observe that the number of committees and the average size of the committees have remained fairly stable along the years

[32] These are the average values of the variables Average monitoring com. size and Average advising com. size when we exclude those observations with value zero

of our sample. The average number of committees was 2.82 in 1999 and 2.44 in 2009, while the average committee size ranges from 3.66 members in 1999 to 3.33 in 2009. Independence of the committees has decreased slightly from 62% (averaged over firm average) in 1999 to 59.3% in 2009, while CEO participation has decreased from 16% to 12.5%. Other corporate governance instruments available to firms (like ownership concentration and leverage have remained also very stable along the years, in line with the casual evidence that differences in governance are mainly cross sectional, and that within firm changes in corporate governance design are not common norm.

TABLE 6. GOVERNANCE AND PERFORMANCE BY YEAR

In Table 6 we present yearly descriptive statistics of key variables in our analysis. Each row shows the yearly average of the key variables in the analysis. The number of observations per year is included in the last row

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Q	2.83	2.593	1.87	1.55	1.76	1.88	2.0	2.26	2.06	1.47	1.622
Leverage	0.155	0.159	0.175	0.192	0.178	0.151	0.14	0.13	0.152	0.211	0.195
Ownership	0.187	0.19	0.22	0.24	0.25	0.26	0.233	0.28	0.303	0.326	0.34
Chairman	0.27	0.26	0.25	0.24	0.25	0.24	0.24	0.23	0.21	0.22	0.21
Board size	10.34	10.03	10.06	10.03	9.81	9.41	9.06	8.8	8.6	8.768	8.74
Outsiders	0.586	0.591	0.605	0.615	0.62	0.62	0.617	0.618	0.618	0.629	0.631
Nr. of com.	2.82	2.80	2.82	2.79	2.88	2.88	2.82	2.78	2.81	2.83	2.88
Nr. of Mon. com.	2.4	2.40	2.39	2.36	2.43	2.45	2.42	2.79	2.41	2.39	2.44
Nr. of Adv. com.	0.255	0.241	0.27	0.27	0.139	0.27	0.26	0.144	0.27	0.29	0.304
Nr. of Mx. com	0.166	0.153	0.156	0.15	0.068	0.141	0.13	0.059	0.13	0.14	0.133
Com. Size	3.66	3.53	3.53	3.52	3.5	3.41	3.25	3.26	3.26	3.3	3.33
Mon. com. size	3.84	3.34	3.38	3.4	3.43	3.35	3.27	3.2	3.20	3.2	3.28
Adv. com. size	0.255	0.84	0.88	0.91	0.93	0.58	0.82	0.82	0.83	0.89	0.93
Mixed com. size	0.166	0.57	0.63	0.631	0.634	0.85	0.56	0.52	0.50	0.55	0.508
CEO in Com.	0.16	0.15	0.16	0.14	0.14	0.14	0.14	0.12	0.12	0.13	0.125
CEO in Monit.	0.14	0.12	0.12	0.12	0.12	0.11	0.11	0.10	0.10	0.11	0.11
CEO in Adv.	0.16	0.17	0.19	0.17	0.17	0.16	0.16	0.14	0.14	0.15	0.14
Com outs. rate	0.62	0.60	0.60	0.604	0.61	0.609	0.602	0.599	0.60	0.597	0.593

Mon. outs. rate	0.579	0.557	0.54	0.546	0.55	0.549	0.52	0.51	0.505	0.48	0.494
Adv. outs. rate	0.11	0.125	0.14	0.129	0.14	0.14	0.13	0.144	0.142	0.158	0.149
Mx outs. rate	0.066	0.052	0.06	0.06	0.068	0.06	0.062	0.06	0.054	0.06	0.052
Number of obs.	**301**	**456**	**621**	**739**	**879**	**1031**	**1248**	**1467**	**1627**	**1636**	**1512**

In Table 7 we compare whether descriptive statistics differ when firms' board structures differ. In Table 7, Panel A, we compare firms with insider dominated boards, to firms with a majority of outsiders on their boards. In Table 7, Panel B, we compare key descriptive statistics for firms with a simple majority of outsiders (those where the proportion of outsiders on the boards ranges from 50% to 70%), to those with a supermajority of outsiders (with a proportion of outsiders on the board larger than 70%).

TABLE7. DESCRIPTIVE STATISTICS BY TYPE OF BOARD

In this table, we present descriptive statistics of key variables for different subsamples when we split the sample by the degree of board independence. In Panel 7A, we present means and standard deviations for key variables when we split the sample in two groups: column one presents data on firms with boards where more than half of their members are insiders (ODB=0), and column two presents data on firms with outsider dominated boards (ODB=1). In panel 7.B. we present only information on firms with boards where the proportion of outsiders is larger than 0.5 (ODB=1). In column one we present information for firms with a simple majority of outsiders (where the outsider rate ranges between 0.5 and 0.7), while in the second column we present information on firms with a supermajority of outsiders in their boards (outsider rate is larger than 0.7 for those firms)

Panel 7A. Outsider/ Insider dominated board	**ODB=0 N=2 116**		**ODB=1 N=9 201**	
	Mean	Std. Dev.	Mean	Std. Dev.
Q	2.25	(4.48)	1.8	(2.05)
Leverage	0.12	(0.15)	0.18	(0.17)
Ownership	0.29	(0.23)	0.28	(0.24)
Board size	7	(2.41)	9.7	(4.54)
Outsider rate	0.37	(0.078)	0.68	(0.13)
Nr. of com	2.57	(0.78)	2.9	(1.06)
Nr. of Mon. com.	2.42	(0.63)	2.4	(0.77)
Nr. of Adv. com.	0.094	(0.36)	0.32	(0.66)
Nr. of Mx. com	0.051	(0.23)	0.16	(0.4)
Com. Size	2.75	(0.962)	3.5	(1.14)
Mon. com. size	2.72	(0.96)	3.4	(1.18)
Adv. com. size	0.27	(1.05)	1.01	(2.01)
Mixed com. size	0.22	(1.04)	0.65	(1.73)

Com outs. rate	0.55	(0.22)	0.62	(0.22)
Mon. outs. Rate	0.55	(0.23)	0.51	(0.34)
Adv. outs. rate	0.038	(0.14)	0.17	(0.30)
Mx outs. rate	0.007	(0.058)	0.08	(0.21)
Panel 7B. Majority/ Supermajority of outsiders	**0.5<Outsiderrate≤0.7 N=5 397**		**0.7<Outsiderrate≤1 N=3 804**	
Q	1.9	(2.4)	1.66	(1.4)
Leverage	0.16	(0.17)	0.21	(0.17)
Ownership	0.25	(0.22)	0.32	(0.25)
Board size	8.2	(3.73)	11.83	(4.75)
Outsider rate	0.58	(0.06)	0.82	(0.075)
Nr. of com	2.9	(0.99)	2.9	(1.15)
Nr. of Mon. com.	2.55	(0.70)	2.2	(0.82)
Nr. of Adv. com.	0.23	(0.58)	0.46	(0.74)
Nr. of Mx. com	0.11	(0.34)	0.23	(0.47)
Com. Size	3.38	(1.03)	3.72	(1.26)
Mon. com. size	3.35	(1.06)	3.55	(1.31)
Adv. com. size	0.64	(1.59)	1.55	(2.39)
Mixed com. size	0.42	(1.36)	0.96	(2.12)
Com outs. rate	0.59	(0.24)	0.67	(0.19)
Mon. outs. rate	0.58	(0.30)	0.40	(0.37)
Adv. outs. rate	0.10	(0.22)	0.29	(0.36)
Mx outs. rate	0.026	(0.11)	0.16	(0.30)

Firms with boards dominated by outsiders have on average less market Q, and they are more leveraged firms. We also observe that firms with boards dominated by outsiders, do not have more committees in their boards, but those are larger in size and more independent.

When we compare firms with a simple majority of outsiders in their boards with firms with a qualified majority, we find that firms with a simple majority of outsiders are less leveraged, and more valuable (in terms of Tobin's Q). As before, we do not find a significant difference in the number of committees, although those are larger and more independent in the case of firms with a qualified majority of outsiders on their boards.

4. EMPIRICAL RESULTS

For a test of our first hypothesis (the use of committees improves

the general efficiency of the board and increases firm value), we compare the results of a benchmark firm value equation, with those of an augmented equation, where the joint impact of committee design and board composition is included in the analysis.

More specifically, we compare the magnitude and significance of the impact of board independence on firm value in a benchmark value function (where firm value depends on board composition along with firm and market characteristics), with the magnitude and significance of the variable board composition in an augmented value function, where we include, along with board composition different measures of the use of committees (like number of committees and firm-average committee independence) as key explanatory variables.

To test our second hypothesis (whether firms that adapt their internal structure in committees to their monitoring and advising requirements generate more value), we investigate whether monitoring and advising necessities –which are performed at a committee level- have a different impact on firm value, depending on the firm requirements for supervision and advice. To do so, we include in the analysis factors that arguably contribute to the creation and design of monitoring and advising committees, and test whether monitoring and advising committees have per se any impact on firm value. Also in our sensitivity analysis we study separately firms for which monitoring and advising intensity differ. To do so, we split the sample by industry and firm size. In the first sensitivity analysis, we compare results for firms in new technology industries (which are arguably more complex and have larger growth opportunities) versus traditional industries. In our second sensitivity analysis we split the sample by firm size, as bigger firms face arguably greater agency concerns.

Overall in the analysis we control for the fact that firms' choice to use committees is not random. This nonrandom selection occurs because the number and composition of committees are owner's preferred choices, and they depend on the firm characteristics and business environment. To correct for this self-selection, we use a Heckman regression model, where the dependent variable in the outcome equation is firm performance, and in the selection equation, we include dummy variables for monitoring and advising intensities as dependent variables, and determinants of monitoring and advising necessities as key explanatory variables. This way, rather than concentrating solely on the impact of board and committees on firm performance we include in the analysis the economic determinants of the existence of committees in the firm, especially in the case of advising committees, which are not common norm in our sample.

The choice of a Heckman regression model (Heckman, 1979), over a dynamic GMM type of analysis, has the clear advantage of controlling for the nonrandom creation of committees (which GMM does not allow to do). The downside of the Heckman Maximum Likelihood regression model is that it does not allow to control for plausible dynamic endogeneity (as it uses current level instruments) and unobserved heterogeneity (as it does not exploit the panel structure of the data). As dynamic endogeneity is less of a concern in regressions relating governance on firm characteristics (Wintoki et al., 2012), the results of the Heckman regression models, will be especially useful to explore the determinants of monitoring and advising intensities, and their relations to other governance mechanism like board independence, chair duality, interlocking etc. Besides, the use of panel data might not improve over cross sectional studies when dealing with unobserved heterogeneity, if there is not enough variation over time of the key explanatory variables, a problem that

is common in corporate governance studies, where board, ownership and institutional parameters change little throughout the years (a feature present in our dataset, as we show in the previous section). We account for the plausible bias due to unobserved heterogeneity and (current and dynamic) endogeneity in our third sensitivity analysis, where we contrast the results (specially the magnitude and significance of the coefficients, as well as the general explanatory power of our regressions) from a Heckman regression model, with those of a GMM type of analysis that provides control for those types of bias.

This section is divided into five differentiated parts: in the first part, we analyze the relation between board structure and firm value, taking into account how firms adapt their board independence and number of committees to their monitoring and advising requirements. In the second part we include the independence of committees in the analysis (instead of the number of committees). In the third part we test whether firms with more advising requirements benefit more from the intensive use of the advising committees, contrasting results for a Heckman regression model in the new technology sectors (which are knowledge intensive and growing sectors) with those of the rest of the economy (what we call traditional sectors). In the fourth subsection we test whether in business environments, where the monitoring requirements increase, the intensive use of supervisory committees leads to value creation. To do so, we split the sample by firm size, comparing results for firms with size below the sample median, to those of the subsample of firms that are larger than the sample median. Finally, in our fifth subsection, we depart from the Heckman type of regression and present the benchmark and augmented value functions using a GMM type of regression, where endogeneity and unobserved heterogeneity are taken into account.

4.1 Number of committees, board independence and firm value

In this section, we analyze the statistical relation between firm value and the joint determination of committee and board composition, and provide an insight on how firms adapt their internal board structure in committees to their monitoring and advising requirements.

To do so, we perform a simultaneous regression system, where firm value is characterized in the first regression (outcome equation), while in the second regression (selection equation); we map the determinants of having a large number of committees within the firm.

We perform the following Heckman regression:

$$Q_{it}=\alpha+\beta_1 OUTSIDERS_{it}+\beta_2 Nr.ofCom_{it}+\beta_3 LNBOARDSIZE_{it}+\beta_4 WEALTHDELTA_{it}+\beta_5 OWNERSHIP_{it}+\beta_6 LEVERAGE_{it}+\beta_7 LNASSETS_{it}+\beta_{8\text{-}18} INDUSTRY_{it}+\beta_{19\text{-}30} YEAR_{it}+\sigma\rho_1\lambda_{it}(X_{it})+\varepsilon_{it} \quad (1)$$

$$Pr(COMMITTEE_{it}=1)=\gamma_0+\gamma_1 OUTSIDERS_{it}+\gamma_2 LNBOARDSIZE_{it}+\gamma_3 OWNERSHIP_{it}+\gamma_4 CHAIRMAN_{it}+\gamma_5 INTERLOCKING_{it}+\gamma_6 LNASSETS_{it}+\gamma_{7\text{-}17} INDUSTRY_{it}+\gamma_{18\text{-}29} YEAR_{it}+\mu_{it} \quad (2)$$

In the outcome equation (equation 1) firm value , measured by *Q*, is regressed on OUTSIDERS, the number of committees (Nr.ofCom.), LNBOARDSIZE, OWNERSHIP and WEALTHDELTA as proxies for the firm corporate governance structure; LEVERAGE and LNASSETS as proxies for the firm characteristics, and year and industry dummies to account for the business environment where the firm operates. We also include the inverse Mills ratio, $\sigma\rho_1\lambda_{it}$ (X_{it}), to control for the fact that the number of committees is not random,

but rather the result of the firm's optimization of their governance structure.

In the selection equation (equation 2), the dependent variable is a dummy that takes the value one if the firm has more than the sample median number of committees (COMMITTEE). In our sample, the median firm has set up 3 committees. This median value of the sample number of committees is in line with our expectations, as the EU commission recommends the setup of Nomination, Remuneration and Audit committees[33] in European listed companies. Those firms that have created more than the three recommended committees can be seen as using committees intensively. With the dummy variable COMMITTEE=1, we split the whole sample into two clearly differentiated groups of firms: one group of firms that uses committees intensively, setting up more committees than the three recommended by the commission, and a second group- the baseline group- of firms with three or less committees on their boards. The dummy variable COMMITTEE takes the value one in the case of the first group (with numerous committees), and the value zero in the baseline group.

To explain why firms self-select into the group of firms with numerous committees, we include (in the selection equation, equation 2) other governance mechanisms in use, together with firms and industry characteristics that proxy for monitoring and advising necessities. We do this, as we argue in our theoretical approach that firms that adapt their internal board structure to their monitoring and advising requirements generate more value. Thus, the dummy for numerous committees is regressed on OUTSIDERS, LNBOARDSIZE; CHAIRMAN, OWNERSHIP, INTERLOCKING to account for alternative governance mechanisms in place and on LNASSETS, INDUSTRY and YEAR dummies to

[33] Recommendation on the Role of Non-executive /Supervisory directors and Supervisory Board Committees (February 2005)

account for firm characteristics and characteristics of the business environment where the firm operates.

If the intensive use of committees in general leads to value creation, we should observe a positive and significant coefficient of the variable Nr.of Com. in the outcome regression. Besides, if the efficiency of independent boards hinges on the use of committees to transmit sensible information, we should observe that the introduction of the variable Nr.of Com. leads to an increase in the magnitude and significance of the coefficient of the variable measuring the impact of board independence (OUTSIDERS) on firm value.

Regression results for the joint estimation of equations (1) and (2) are presented in Table 8. In the first column, we present results for a benchmark equation, where information on committees (the variable Nr.of Com in equation 1) is excluded from the analysis. The purpose of including this benchmark equation is twofold. On one hand, it allows to compare the results of a benchmark equation (where information on committees is not included), with those of an augmented version, where we include information on committees, to check whether including information on committees improves explanatory power of the value function. On the other hand it allows to compare the results of the Heckman regression model, with that of the GMM type of analysis presented in Table 14, and it provides an insight on how parameters differ between both model specifications, which is related to how serious our problems with unobserved heterogeneity and dynamic endogeneity in the Heckman case, and self selection in the GMM case are. In column (2) we present regression results for equations (1) and (2).

In columns (3) and (4) we study the impact of monitoring and advising committees separately. This way in column (3) we substitute the total

number of committees with the number of monitoring committees in the outcome equation. In the selection equation, the dependent variable is a dummy that takes the value one if the firm has at least two monitoring committees. In column (4) we substitute the total number of committees from the outcome equation with the total number of advisory committees, and we use as dependent variable in the selection equation a dummy that takes the value one if the firm has at least one advisory committee.

Regression results for the outcome equation are presented in Panel 8.A. and regression results for the selection equation are presented in Panel 8.B.

TABLE 8. REGRESSION RESULTS 1. NUMBER OF COMMITTEES, BOARD INDEPENDENCE AND FIRM VALUE

Heckman two step consistent estimate of the impact of board independence on firm value, controlling for the total number of committees. In Panel 8A we present results for the outcome equation, in Panel 8B we present results for the selection equation. The dependent variable in the outcome equation is the Tobin's Q (*Q*) in all cases. Explanatory variables are the proportion of outsiders in the board (OUTSIDERS), number of committees (Nr. Com.), number of monitoring committees (Nr.of Monit.), number of advising committees (Nr. Adv.), board size (LN BOARDSIZE), sensitivity of CEO wealth to changes in stock price (CEO WEALTH), debt to assets ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LN ASSETS), industry and year dummies, the inverse Mill's ratio and a constant term. In the selection equation (Panel 8B) the dependent variable is a dummy that reflects intensive use of committees by firms (COMMITTE). In columns 1 and 2 the dependent variable is a dummy that takes the value one if the firm has more than three committees. In column 3 the dependent variable is a dummy that takes the value one if the firm has more than two strictly monitoring committees, and in column 4, the dependent variable takes the value one if the firm has at least one advising committee. The dependent variables in the selection equation are OUTSIDERS, LNBOARDSIZE, OWNERSHIP, a dummy for chair duality (CHAIRMAN), INTERLOCKING, LNASSETS, industry dummies and a constant term. P|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001. The estimated coefficient of the inverse Mills ratio (LAMDA), the correlation between the error terms of the outcome and selection equation, (RHO), and the variance of the outcome regression (SIGMA), are also provided.

	Benchmark	Nr. Com	Nr. Monit.	Nr. Adv.
	(1)	(2)	(3)	(4)
Panel 8.A. Outcome Equation. Dependent Variable: *Q*				
Outsiders	0.516	0.559	0.167	**0.761*** **
	(0.211)	(0.175)	(0.514)	**(0.001)**
Nr.of Com.		**0.122*** **		

		(0.010)		
Nr. Of Monit.			0.059	
			(0.514)	
Nr. Of Adv.				**0.112****
				(0.009)
Ln Board Size	0.371*	0.338	0.60***	0.070
	(0.0034)	(0.053)	(0.000)	(0.704)
Leverage	-1.8***	-1.856	-2.276***	-2.255***
	(0.000)	(0.000)	(0.000)	(0.000)
Wealth Delta	0.000	0.000	0.000***	0.000
	(0.133)	(0.000)	(0.000)	(0.056)
Ownership	-0.534	-0.497	-1.17***	-0.203
	(0.138)	(0.196)	(0.000)	(0.209)
Ln Assets	-0.070*	-0.078	-0.209***	-0.098*
	(0.275)	(0.166)	(0.000)	(0.012)
Constant	0.752	0.58	0.645	2.14*
	(0.485)	(0.793)	(0.624)	(0.033)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Panel 8.B. Selection Equation				
Dependent Variable	**Nr. Com>3**	**Nr. Com>3**	**Nr. of M >2**	**Nr. Of A≥1**
Outsiders	-0.723***	-0.724***	-1.81***	0.314**
	(0.000)	(0.000)	(0.000)	(0.009)
Ln Board Size	0.367***	0.367***	-0.360***	0.652***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	-0.915***	-0.915***	-1.17***	-0.43***
	(0.000)	(0.000)	(0.000)	(0.000)
Chairman	-0.289***	-0.2898***	-0.950***	0.035
	(0.000)	(0.000)	(0.000)	(0.405)
Interlocking	-0.019*	-0.019*	0.076***	-0.082***
	(0.039)	(0.039)	(0.000)	(0.000)
Ln Assets	0.200***	0.200***	0.170***	0.187***
	(0.000)	(0.000)	(0.0000)	(0.000)
Constant	-5.556	-5.556	5.62***	-6.36***
	(0.970)	(0.970)	(0.000)	(0.952)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Nr of observations	8220	8220	8203	7812
Censored observations	6858	6858	4080	5944
Uncensored observations	1362	1362	4123	1868
Wald Chi2	169.27	176.59	625.92	289.69
Mills Lambda	0.34	0.350	0.291**	0.000
	(0.408)		(0.0038)	(0.999)
Rho	0.235	0.2429	0.16274	-0.0675
Sigma	1.44	1.441	1.79	1.394

From the benchmark outcome equation (Table 8, column 1) we observe that firm value is positively related to board size, and negatively related to market leverage and firm assets. The coefficient of board size, β_3, is positive, 0.371, and statistically significant, as in Coles et al (2008). The

coefficient of board independence, β_1, is positive, 0.516, but not significant. This result is in line with previous studies by Wintoki et al (2012) and Palia (2001). Other additional internal governance instruments (like CEO wealth delta and ownership concentration), have a non-significant impact on firm value in our benchmark outcome equation. This lack of significance does not necessarily mean that board independence -or other internal governance mechanisms- does not have an impact on performance. It might also be the result of a downward bias originated by the exclusion of information on committees or other governance mechanisms in place from the analysis.

The selection equation provides an insight into the key determinants of the creation of committees. We observe that the propensity to use committees intensively increases with board and firm size, and decreases with board independence, ownership concentration, chair duality and directors additional board positions. We explain the positive relation between board size and the intensive use of committees; as bigger boards have more capacity to set up additional committees, and they benefit more from the use of committees as organizational tool to transmit information within the board. We explain the positive relation between firm size and the intensive use of committees, as bigger firms, might have more complex operational environments, which would benefit from the work of committees.

The observation that the alternative governance mechanisms in place have a highly significant impact on the firms selecting to have a large number of committees is in line with the view that firms design their corporate governance structures as a system, taking into account the interrelations between alternative corporate governance instruments. This way, firms with more concentrated ownership, more independent boards and more connected board members use committees less intensively. Besides, we find that firms

with powerful CEOs (firms where the CEO is also chairman) are less prone to have numerous committees. This might be the case as in firms with powerful CEOs decision making relies less on the board, and more on the managerial team. In this case, information transmission within committees (and thus the use of committees) becomes less relevant. It can also reflect entrenchment, as powerful CEOs prefer to avoid close monitoring by committees.

To analyze whether the use of committees leads to increase firm value, we extend the benchmark regression model presented in Table 8, column 1, to include the firm total number of committees in the outcome regression. Results are presented in Table 8, column 2. We observe that, once we have accounted for the non-random creation of committees, an increase in the total number of board committees is positively related to an increase in firm value. The coefficient of number of committees in the outcome regression, β_2, is positive (0.122) and it is statistically significant. We also note that including the number of committees in the firm value, does not change the sign or significance of the impact of board independence on firm value (which is very close to that obtained in the benchmark equation), indicating that both independent and less independent boards benefit equally from the set-up of committees, and that adding information on committees does not improve the explanatory power of the relation between board independence and firm value. The positive and significant impact of the number of committees on firm value is in line with our first hypothesis, which states that the use of committees in general improves the efficiency of the board and leads to value creation.

In Table 8, column 3 we present results of the augmented model, including the number of monitoring committees in the analysis, instead of the total number of committees. This way, in the selection equation, the

dependent variable is a dummy that takes the value one if the firm has more than two monitoring committees (which is the sample median), and in the outcome regression, the key explanatory variable is the total number of monitoring committees. In Table 8, column 4, we substitute the total number of committees with the number of advisory committees in the outcome regression, and we use a dummy that takes the value 1 if the firm has at least one advising committee, as dependent variable in the selection equation.

From the outcomes equations in Table 8 we observe that, both an increase in the total number of committees, and an increase in the number of firms advisory committees imply an increase in firm value, while the number of monitoring committees is not statistically related to firm value (Table 8 columns 2 to 4). This result might indicate that is the setup of advising committees, rather than the monitoring committees, the one that drives the positive relation between the use of committees and firm value as the informal information transmission within committees is especially relevant for boards to implement their advisory role efficiently.

We also find from the selection equation (Table 8, columns 3 and 4) that the proportion of outsiders in the board is positively related to the creation of advisory committees, while it is negatively related to the intensive use of monitoring committees. This result, together with the positive and significant coefficient of the variable OUTSIDER in the outcome equation from Table 8, column 4, is in line with second our hypothesis that firms with independent boards benefit more from the creation of advising committees, where information between outsiders (who provide advise) and insiders (who provide the necessary information for efficient decision making), is transmitted more efficiently.

4.2 Committee independence, board independence and firm value

The analysis in this subsection is similar to that in section 4.1, but we substitute information on the total number of (monitoring/advising) committees, with the proportion of outsiders in the (monitoring/advising) committees.

We run the following regressions:

$$Q_{it}=\alpha+\beta_1 OUTSIDERS_{it}+\beta_2 Com.Indep._{it}+\beta_3 LNBOARDSIZE_{it}+\beta_4 WEALTHDELTA_{it}+\beta_5 OWNERSHIP_{it}+\beta_6 LEVERAGE_{it}+\beta_7 LNASSETS_{it}+\beta_{8\text{-}18} INDUSTRY_{it}+\beta_{19\text{-}30} YEAR_{it}+\sigma\rho_1\lambda_{it}(X_{it})+\varepsilon_{it} \quad (3)$$

$$Pr(COMMITTEE_{it}=1)=\gamma_0+\gamma_1 OUTSIDERS_{it}+\gamma_2 LNBOARDSIZE_{it}+\gamma_3 OWNERSHIP_{it}+\gamma_4 CHAIRMAN_{it}+\gamma_5 INTERLOCKING_{it}+\gamma_6 LNASSETS_{it}+\gamma_{7\text{-}17} INDUSTRY_{it}+\gamma_{18\text{-}29} YEAR_{it}+\mu_{it} \quad (4)$$

In the outcome regression (equation 3) firm value (*Q*) is regressed on OUTSIDERS, average proportion of outsiders in the committees (Com Indep.), LNBOARDSIZE, OWNERSHIP and WEALTHDELTA as proxies for the firm corporate governance structure; LEVERAGE and LNASSETS as proxies for the firm characteristics, year and industry dummies to account for the business environment where the firm operates, and the inverse Mills ratio, $\sigma\rho_1\lambda_{it}(X_{it})$, to control the non-random selection into committees.

The selection equation is similar to that in the previous section, where the dependent variable is a dummy that takes the value one if the firm uses committees intensively and 0 otherwise. As explanatory variables we include proportion of outsiders on the board (OUTSIDERS), board size in logarithm (LNBOARDSIZE), ownership concentration (OWNERSHIP), a dummy that takes the value one if the CEO is also Chairman of the Board (CHAIRMAN), the average number of additional board positions of board members

(INTERLOCKING), firm assets (LNASSETS), industry and year dummies and a constant term.

Results for this model specification are presented in Table 9, columns 1 to 4. As in the previous section, we include in column (1) a baseline model for comparison purpose, where the variable measuring the independence o of committees (Com.Indep.) is excluded from the outcome equation. In the second column, we include as explanatory variable in the outcome equation the average proportion of outsiders in the firm committees (Com. Indep.), as in equation (3). In the third column we analyze how the independence of the monitoring committees is related to firm value. We do so, by including in the outcome equation the average outsiders in firm monitoring committees as explanatory variable, and in the selection equation, a dummy that takes the value one if the firm has more than two monitoring committees as dependent variable. Finally, in column 4, we analyze the relation between the outsiders in the advising committees and firm value, by including, as explanatory variable in the outcome regression, the average proportion of outsiders in the firms advising committees, and as dependent variable in the selection equation, a dummy for the existence of advising committees in the board.

TABLE 9. REGRESSION RESULTS 2. COMMITTEE INDEPENDENCE, BOARD INDEPENDENCE AND FIRM VALUE.

Heckman two step consistent estimate of the impact of board independence on firm value, controlling for the independence of committees. In Panel 9A, we present results for the outcome equation, in Table 9B we present results for the selection equation. The dependent variable in the outcome equation is the Tobin's Q (*Q*) in all cases. Explanatory variables are the proportion of outsiders in the board (OUTSIDERS), average proportion of outsiders in committees (Com. Indep.), the average proportion of outsiders in monitoring committees (Monit. Indep.), the average proportion of outsiders in advising Committees (Adv. Indep.), Board size (LNBOARDSIZE), sensitivity of CEO wealth to changes in stock price (CEO WEALTH), debt to assets

ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LNASSETS), industry and year dummies, the inverse Mill´s ratio and a constant term. In the selection equation (Panel 9B) the dependent variable is a dummy that reflects intensive use of committees by firms (COMMITTE). In columns 1 and 2 the dependent variable is a dummy that takes the value one if the firm has more than three committees. In column 3 the dependent variable is a dummy that takes the value one if the firm has more than two strictly monitoring committees, and in column 4, the dependent variable takes the value one if the firm has at least one advising committee. The dependent variables in the selection equation are OUTSIDERS, LNBOARD SIZE, OWNERSHIP, a dummy for chair duality (CHAIRMAN), INTERLOCKING, LNASSETS, industry dummies and a constant term. P|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001. The estimated coefficient of the inverse Mills ratio (LAMDA), the correlation between the error terms of the outcome and selection equation, (RHO), and the variance of the outcome regression (SIGMA), are also provided.

	Benchmark	Com. Indep.	Monit. Indep.	Adv. Indep.
	(1)	(2)	(3)	(4)
Panel 9.A. Outcome Equation.				
Dependent Variable: *Q*				
Outsiders	0.516	0.841	0.199	**0.662****
	(0.211)	(0.103)	(0.445)	**(0.007)**
Com. Indep.		**0.564****		
		(0.006)		
Monit. Indep.			0.047	
			(0.544)	
Adv. Indep.				0.055
				(0.601)
Ln Board Size	0.371**	0.135	0.605***	0.115
	(0.003)	(0.482)	(0.000)	(0.534)
Leverage	-1.8***	-1.70***	-2.278***	-2.26***
	(0.000)	(0.000)	(0.000)	(0.000)
Wealth Delta	0.000	0.000	0.000***	0.000*
	(0.133)	(0.262)	(0.000)	(0.037)
Ownership	-0.534	-0.258	-1.17***	-0.244
	(0.138)	(0.469)	(0.000)	(0.131)
Ln Assets	-0.070	-0.160*	-0.209***	-0.095*
	(0.275)	(0.016)	(0.000)	(0.015)
Constant	0.752	1.87*	0.796	2.23*
	(0.485)	(0.045)	(0.538)	(0.027)
			(0.280)	
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Panel 9.B. Selection Equation				
Dependent Variable	**Nr. Com>3**	**Nr. Com>3**	**Nr. of M >2**	**Nr. Of A≥1**
Outsiders	-0.915***	-0.97***	-1.81***	0.314***
	(0.000)	(0.000)	(0.000)	(0.000)
Ln Board Size	0.367***	0.235**	-0.036***	0.652***
	(0.000)	(0.002)	(0.000)	(0.000)
Ownership	-0.915***	-0.894***	-1.17***	-0.433***
	(0.000)	(0.000)	(0.000)	(0.000)
Chairman	-0.289***	-0.425***	-0.950***	0.035
	(0.000)	(0.000)	(0.000)	(0.405)

Interlocking	-.019*	-0.040***	0.076***	-0.082***
	(0.039)	(0.000)	(0.000)	(0.000)
Ln Assets	0.200***	0.215***	0.170***	0.187***
	(0.000)	(0.000)	(0.0000)	(0.000)
Constant	-5.556	-5.25	5.62***	-6.36
	(0.970)	(0.975)	(0.000)	(0.952)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Nr of observations	8220	7940	8203	7812
Censored observations	6858	6858	4080	5944
Uncensored observations	1362	1082	4123	1868
Wald Chi2	169.27	119.51	625.93	282.07
Mills Lambda	0.34	-0.0828	0.289*	-0.0122
	(0.408)	(0.819)	(0.039)	(0.968)
Rho	0.235	-0.0547	0.28062	-0.008
Sigma	1.44	1.514	1.79	1.396

From Table 9, column 2 we observe a positive and statistically significant relation between the average independence of firm committee and firm value. This positive relation holds, even when the total proportion of outsiders in the board is not significantly related to firm value. We also observe that the average independence of advisory committees is positively related to firm value, while we do not find a consistently statistically significant relation between the independence of monitoring committees and firm value. Including the information on the average firm committee independence in the regressions, does not change the significance of the relation between board independence and firm value, which is still not significant. Thus, one can argue, in view of these results, that it is the composition of the committees within the board, rather than the aggregate board structure what is relevant for the creation of value and that firms that adapt their committee structure to their monitoring and advising requirements both in terms of the number of committees (selection equation) and in terms of the average committee independence (outcome equation) are those with higher Q values in our sample. This result is in line with our statement in proposition H1, where we argue that the composition of the committees is relevant for firm value, as it is

within committees where information is transmitted.

On aggregate, the results in the outcome equations in Tables 8 and 9 are in line with our proposition (H1) that states that the use of committees in general improves the general efficiency of the board and leads to firm value, as we find, on aggregate, a positive and significant joint impact of board independence and committee independence on firm value. Disaggregating by committee type, we find that the positive and significant joint impact holds when we analyze the independence of the advisory committees alone, while the joint impact of board and monitoring committee independence is not significant.

We cannot conclude that including information of committees in the regression improves the explanatory power of the relation between the aggregate board independence and firm value, as only in the case of the inclusion of the number and independence of advisory committees (Tables 8 and 9, column 4) board composition has a positive and significant impact on firm value. However, we find support to our statement that the use of advisory committees leads to value creation, and even that including information on advisory committees in the model improves the explanatory power of board independence on firm value (Tables 8 and 9, column 4). One could also argue that the results in Table 9, column 4 are in line with our proposition that information transmission within advisory committees is very relevant for the board to perform its advisory duties efficiently. It also provides partial support to proposition (H2), as it shows that in business environments where the advising requirements are significant, the intensive use of advising committees improves firm value.

These results have to be interpreted carefully. The Heckman

regression model does not correct or dynamic endogeneity and unobserved heterogeneity, which can be done with the use of other econometric techniques, like the generalized methods of moments (GMM) estimation. While the Heckman regression does not correct for dynamic endogeneity, the GMM analysis might be suffering from selection bias which we correct for in a Heckman type of analysis. To include the Heckman correction for selection in our model is especially relevant in the case of advisory committees as they are not common norm in our analysis. The term Mills Lambda provides the estimated coefficient on the inverse Mills ratio. When Lambda is statistically different from zero (as it is the case with the use of monitoring committees) selection bias has to be accounted for. Besides, if the estimated rho is significantly different from zero, as it is the case in most model specifications, we may reject the hypothesis of no correlation between the two error terms from the outcome and selection equations. This later should indicate the adequacy of a simultaneous equation model where selection is relevant. In section 4.5, we present results for an analysis using GMM and compare both sets of results.

4.3 Business complexity, committee and board composition and firm value

In this section, we test our second hypothesis, which states that in complex business environments where the advising requirements are significant, the intensive use of committees in general, and advising committees in particular, improves firm value.

For a test of the impact of committees on firm value in complex business environments, we split our sample by industry, and we analyze whether parameters of our model differ depending on the subsample analyzed,

and thus, the type of business environment. To split the sample, we create a new dummy variable, NEWTECH, that takes the value one if the firm is in a technological sector, and zero if the firm is any of the remaining sectors. Firms that belong to the new technology sectors are those that belong to the following groups in the BoardEx sector classification: “Aerospace and Defense”, “Information Technology Hardware” and “Software and Computer Services”. In all, there are 1 303 observations in the New Technology group in our sample, and they amount up to 11.31 % of the total number of observations.

We check whether the number and independence of committees have a different impact on firm value, in the two subsamples. In Table 10 we analyze the relation between the total number of committees (and the total number of advising committees) for firms in the new technology sectors (versus firms in the traditional sectors). To do this we run equations (1) and (2) separately for both groups of firms, and we compare the sign and significance of regression coefficients.

TABLE 10. REGRESSSION RESULTS 3. BUSINESS COMPLEXITY, NUMBER OF COMMITTEES, BOARD INDEPENDENCE AND FIRM VALUE.

Heckman two step consistent estimate of the impact of board independence on firm value, when we split the sample by industry (New Technology Firms, High Tech=1, and traditional industries, High Tech=0). In Panel 10A we present results for the outcome equation. The dependent variable is the Tobin’s Q (*Q*). Explanatory variables are the proportion of outsiders in the board (OUTSIDERS), the number of committees (Nr. Com.), number of Advising Committees (Nr. Adv.), Board Size (LNBOARDSIZE), sensitivity of CEO wealth to changes in stock price (WEALTHDELTA), debt to assets ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LNASSETS), industry and year dummies, the inverse Mill’s ratio and a constant term. In the selection equation, Panel 10B, the dependent variable is a dummy that takes the value one if the firm has more than three committees (Columns 1 and 2), and a dummy that takes the value one if the firm has at least one advising committee (Columns 3 and 4). The dependent variables in the selection equation are OUTSIDERS, LNBOARDSIZE, OWNERSHIP, a dummy for chair duality (CHAIRMAN), INTERLOCKING, LNASSETS, industry dummies and year and a constant term. P|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001. The estimated coefficient of the inverse Mills ratio (LAMDA), the correlation between the error terms of the outcome and selection equation (RHO) and the variance of the outcome regression (SIGMA), are also provided.

Panel 10.A. Outcome Equation. Dependent Variable: *Q*	**High Tech=1 (1)**	**High Tech=0 (2)**	**High Tech=1 (3)**	**High Tech=0 (4)**
Outsiders	-0.803	0.795	-1.161	1.06***
	(0.379)	(0.079)	(0.172)	(0.000)
Nr. Of Com.	**0.395****	0.0348		
	(0.002)	(0.499)		
Nr. Adv.			0.265	-0.073
			(0.052)	(0.110)
Ln Board Size	-0.314	0.221	0.390	0.304
	(0.857)	(0.175)	(0.459)	(0.142)
Leverage	-6.068***	-0.137	-4.218***	-0.714***
	(0.000)	(0.536)	(0.000)	(0.000)
Wealth Delta	0.609***	0.195***	0.457***	0.165***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	2.652	-0.230	0.174	-0.276
	(0.176)	(0.535)	(0.735)	(0.144)
Ln Assets	-0.122	-0.174*	-0.236*	-0.115*
	(0.488)	(0.012)	(0.019)	(0.030)
Constant	0.451	0.946	3.69**	0.459
	(0.939)	(0.358)	(0.036)	(0.707)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Panel 10.B. Selection Equation				
Dep Var	**Nr. Com >3**	**Nr. Com >3**	**Nr. Adv. ≥ 1**	**Nr. Adv. ≥ 1**
Outsiders	0.108	-0.802***	2.13***	0.075
	(0.864)	(0.000)	(0.000)	(0.557)
Ownership	-2.126***	-0.904***	-0.88*	-0.430***
	(0.000)	(0.000)	(0.012)	(0.000)
Ln Board Size	1.857***	2.33***	0.441	0.596***
	(0.000)	(0.001)	(0.118)	(0.000)
Chairman	-0.15	-0.310***	0.476**	0.010
	(0.473)	(0.000)	(0.002)	(0.807)
Interlocking	-0.015	-0.012	-0.246***	-0.065***
	(0.792)	(0.202)	(0.000)	(0.000)
Ln Assets	0.124	0.209***	0.324***	0.192***
	(0.112)	(0.000)	(0.000)	(0.000)
Constant	-9.56	-5.18	-5.2***	-6.15
	(0.955)	(0.962)	(0.000)	(0.951)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Nr of observations	888	7292	842	6872
Censored observations	822	6036	711	5233
Uncensored observations	66	1256	131	1639
Wald Chi2	376.64	144.49	238.75	202.56
Mills Lambda	-0.035	0.088	0.174	0.431
	(0.976)	(0.833)	(0.621)	(0.272)
Rho	-0.0506	0.06	-0.157	0.296
Sigma	0.700	1.41	1.084	1.45

Our results suggest that both the number of committees and the number of advisory committees have a positive and significant impact on firm value in the case of new technology firms, while we do not find this relation in the subsample that contains the rest of economic sectors. As we see in Table 10A, columns 1 and 3, the coefficient that measures the relation between the number of committees and firm value is positive, 0.395, and significant, while the relation between the number of advisory committees and firm value is also positive, 0.265, albeit is very marginally significant. In this case, the value zero lies within the 95% confidence interval, although the z value, 1.94, is very close to the significance threshold. This coefficients and significance levels contrast sharply with those of the non-technological sector (with z values of 0.62 for the coefficient measuring impact of the number of committees on firm value, and -1.6 for the coefficient of the number of advisory committees) , which are clearly not significant. In all, these results do not contradict our hypothesis that the use of committees in general, and the use of advisory committees in particular are beneficial in settings with strong advisory requirements. They support the idea that the use of committees in general can be beneficial in complex business environments, as it the case of the new technology sectors.

Support for our hypothesis is not so strong when we analyze the impact of committee independence on firm value. Results are presented in Table 11. We find a positive and significant relation between the committee independence and firm value in the case of firms in the traditional sector. This relation is not significant for new technology firms. Besides the joint impact of board independence and committee independence is not statistically significant in the case of new technology firms, while it is positive and significant for the group of firms in the traditional sector. This result is at odds with the proposition that high tech firms benefit more from the presence of

independent advisory committees. According to our results, firms in the traditional sectors benefit more from the independence of advisory committees. One plausible explanation for this puzzling result could be that our industry classification does not reflect properly business complexity. Robustness tests (not reported here, but available upon request) rule out this plausible explanation, as they show the persistence of this result, even when we use other sectorial classifications. We also test alternative proxies for business complexity, not based in industry classification, but on measures like research and development expenses and capital intensity, defined as the ratio of total capital to total assets, and results are inconclusive[34].

TABLE 11. REGRESSSION RESULTS 4. BUSINESS COMPLEXITY, COMMITTEE AND BOARD INDEPENDENCE AND FIRM VALUE.

Heckman two step consistent estimate of the impact of board independence on firm value, when we split the sample by industry (New Technology Firms, High Tech=1, and traditional industries, High Tech=0). In Panel 10A we present results for the outcome equation. The dependent variable is the Tobin's Q (*Q*). Explanatory variables are the proportion of outsiders in the board (OUTSIDERS), the average independence of committees (Com. Indep.), the average independence of Advising Committees (Adv. Indep.), Board Size (LNBOARDSIZE), sensitivity of CEO wealth to changes in stock price (WEALTHDELTA), debt to assets ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LNASSETS), industry and year dummies, the inverse Mill's ratio and a constant term. In the selection equation, Panel 10B, the dependent variable is a dummy that takes the value one if the board has more than three committees (Columns1 and 2) and a dummy that takes the value one if the firm has at least one advising committee (Columns 3 and 4). The dependent variables in the selection equation are OUTSIDERS, LNBOARDSIZE, OWNERSHIP, a dummy for chair duality (CHAIRMAN), INTERLOCKING, LNASSETS, industry dummies and year and a constant term. P|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001. The estimated coefficient of the inverse Mills ratio (LAMDA), the correlation between the error terms of the outcome and selection equation (RHO) and the variance of the outcome regression (SIGMA), are also provided.

Panel 11.A. Outcome Equation.	**High Tech=1**	**High Tech=0**	**High Tech=1**	**High Tech=0**
Dependent Variable: *Q*	**(1)**	**(2)**	**(3)**	**(4)**
Outsiders	-4.54	1.33*	-1.20	**0.992*** **
	(0.294)	(0.018)	(0.138)	**(0.000)**
Com. Indep.	1.72	**0.498***		
	(0.595)	**(0.020)**		
Adv. Indep.			-0.496	**0.160**
			(0.163)	**(0.164)**

[34] Results not reported here, but available upon request

Ln Board Size	-3.79	0.167	0.694	0.311
	(0.382)	(0.397)	(0.157)	(0.135)
Leverage	-1.949	-0.089	-4.559***	-0.734***
	(0.667)	(0.729)	(0.000)	(0.000)
Wealth Delta	0.299	0.214***	-0.499***	0.161***
	(0.318)	(0.000)	(0.000)	(0.000)
Ownership	8.13	0.123	0.395	-0.276
	(0.162)	(0.751)	(0.443)	(0.144)
Ln Assets	-0.326	-0.303***	-0.294**	-0.116**
	(0.410)	(0.000)	(0.002)	(0.028)
Constant	17.08	2.18*	4.5*	0.397
	(0.194)	(0.020)	(0.013)	(0.745)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Panel 11.B. Selection Equation				
Dep Var	**Nr. Com >3**	**Nr. Com >3**	**Nr. Adv. ≥ 1**	**Nr. Adv. ≥ 1**
Outsiders	0.195	-1.029***	2.13***	0.075
	(0.834)	(0.000)	(0.000)	(0.557)
Ln Board Size	2.24***	0.151	0.44	0.596***
	(0.001)	(0.052)	(0.118)	(0.000)
Ownership	-3.902***	-0.906***	-0.88*	-0.430***
	(0.000)	(0.000)	(0.012)	(0.000)
Chairman	-1.040**	-0.426***	0.474**	0.010
	(0.007)	(0.000)	(0.002)	(0.807)
Interlocking	-0.276*	-0.033**	-0.245***	-0.065***
	(0.018)	(0.002)	(0.000)	(0.000)
Ln Assets	0.261*	0.218***	0.324***	0.192***
	(0.037)	(0.000)	(0.000)	(0.000)
Constant	-11.04	-4.93	-5.22***	-6.15
	(0.980)	(0.966)	(0.000)	(0.951)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Nr of observations	853	7059	842	6872
Censored observations	822	6036	711	5233
Uncensored observations	31	1023	131	1639
Wald Chi2	45.39	125.58	277.33	201.39
Mills Lambda	-1.761	-0.483	0.861	0.465
	(0.195)	(0.217)	(0.452)	(0.238)
Rho	-1.0	-0.307	0.310	0.3188
Sigma	1.76	1.57	2.779	1.460

In all, we observe a positive relation between the use of committees within firms and firm value, in the sector of new technologies: both the number of committees and the number of advisory committees are positively related to firm value for this group of firms. Including information on committee independence does not add support to our previous empirical

findings, as we do not find a positive and significant relation between the independence of committees in general, and the independence of advisory committees and firm value in the new technology sectors.

4.4 Firm size, committees and board composition and firm value

In this section we analyze the impact of the number and independence of monitoring committees on firm value when we split the sample by firm size. We do this to test whether firms with stronger monitoring requirements (as it is the case of larger firms) benefit more from the set up and independence of monitoring committees. The results for these tests are presented in Tables 12 and 13.

TABLE 12. REGRESSSION RESULTS 5. FIRM SIZE, NUMBER OF COMMITTEES, BOARD INDEPENDENCE AND FIRM VALUE

Heckman two step consistent estimate of the impact of board independence on firm value, when we split the sample by firm size (Firms with size above the sample median, Big Firm=1, and firms with size below the sample median, Big firms=0). In Panel 12.A, we present results for the outcome equation, in Table 12.B we present results for the selection equation. The dependent variable in the selection equation is the Tobin's Q (*Q*) in all cases. Explanatory variables are the proportion of outsiders in the board (OUTSIDERS), number of committees (Nr. Com.), number of monitoring committees (Nr. Monit.), Board Size (LNBOARD SIZE), sensitivity of CEO wealth to changes in stock price (CEO WEALTH), debt to assets ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LN ASSETS), industry and year dummies, the inverse Mill's ratio and a constant term. In the selection equation (Panel 16.B) the dependent variable is a dummy that takes the value one if the firm has more than two monitoring committees. The dependent variables in the selection equation are OUTSIDERS, LNBOARDSIZE, OWNERSHIP, a dummy for chair duality (CHAIRMAN), INTERLOCKING, LNASSETS, industry dummies and year and a constant term. P|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001. The estimated coefficient of the inverse Mills ratio (LAMDA), the correlation between the error terms of the outcome and selection equation, (RHO), and the variance of the outcome regression (SIGMA), are also provided.

Panel 12.A. Outcome Equation. Dependent Variable: *Q*	**Big Firm=1 (1)**	**Big Firm=0 (2)**	**Big Firm=1 (3)**	**Big Firm=0 (4)**
Outsiders in the board	**0.799*** (0.000)**	-0.214 (0.628)	**0.779*** (0.000)**	**-0.225 (0.610)**
Number of committees	**0.0642*** (0.000)**	**-0.028 (0.836)**		
Number of monitoring committees			**0.079* (0.049)**	-0.227 (0.450)

Ln Board Size	0.168*	1.15***	0.19**	1.15***
	(0.014)	(0.000)	(0.005)	(0.000)
Leverage	-1.75***	-2.74***	-1.75***	-2.736***
	(0.000)	(0.000)	(0.000)	(0.000)
Wealth Delta	0.000**	0.001***	0.000***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	-0.491***	-1.646**	-0.513***	-1.65**
	(0.000)	(0.000)	(0.000)	(0.000)
Ln Assets	-1.047***	-0.480***	-0.097***	-0.479***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-1.82***	1.18**	1.70***	1.79
	(0.0000)	(0.003)	(0.000)	(0.386)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Panel 12.B. Selection Equation				
Dep Var	**Nr. of M >2**	**Nr. Of M>2**	**Nr. Of M>2**	**NR of M>2**
Outsiders	-3.00***	-0.220*	-3.09***	-0.643
	(0.000)	(0.011)	(0.000)	(0.000)
Ln Board Size	0.679***	0.220***	0.679***	0.220*
	(0.000)	(0.000)	(0.000)	(0.011)
Ownership	-1.98***	-0.426***	-1.92***	-0.426***
	(0.000)	(0.000)	(0.000)	(0.000)
Chairman	-0.948***	-0.741***	-0.948***	0.741***
	(0.000)	(0.000)	(0.000)	(0.000)
Interlocking	0.120***	-0.0915***	0.120***	-0.091***
	(0.000)	(0.000)	(0.000)	(0.000)
Assets	0.044***	-0.48***	0.044*	0.367***
	(0.000)	(0.000)	(0.017)	(0.000)
Constant	3.5***	1.18	3.53***	4.46
	(0.000)	(0.532)	(0.000)	(-)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Nr of observations	4313	3890	4313	3890
Censored observations	2075	2005	2075	2005
Uncensored observations	2238	1885	2238	1885
Wald Chi2	993.05	317.38	977.23	317.96
Mills Lambda	0.094	0.998**	-0.088	1.00***
	(0.146)	(0.003)	(0.178)	(0.003)
Rho	-0.014	0.396	-0.1319	0.397
Sigma	0.666	2.5191	0.668	2.519

In Table 12, we run equations (3) and (4) separately for firms with total assets above the sample median (what we call big firms) and for firms with total assets below the sample median, which is 562.856 in our case. In this case we include the total number of committees as key explanatory variable in the outcome equation in columns 1 and 2, and the total number of monitoring committees in the outcome equation, columns 3 and 4. In the selection

equation, the dependent variable is a dummy that takes the value 1 if the firm has more than two monitoring committees in all cases.

From Table 12, we observe that in big firms, both the total number of committees and the number of monitoring committees have a positive and significant relation to firm value, which supports our testable implication that states that firms with greater monitoring requirements benefit more from the set-up of monitoring committees. Besides, when we include information on committees in the outcome regression, we observe that the relation between board independence and firm value turns out to be positive and significant, which also supports our statement that including information about committees in the analysis improves the explanatory power of board composition in firm value.

On the other hand, we observe in Table 13, that the independence of the committees in general and the independence of monitoring committees in particular is not significantly related to an increase in firm value, neither in firms of above median size, nor in the subsample of the smaller firms. This result reinforces our findings in Section 5.2, where we do not find a significant relation between the independence of monitoring committees and firm value. This result is relevant for normative purposes, as most corporate governance recommendations in Europe and worldwide advocate for setting independent monitoring committees (the independence of audit, remuneration and appointment committees is usually recommended to be above average). In our study we find no evidence that independence of monitoring committees is per se a value increasing strategy. As in the case of board independence, we do not find evidence that increasing committee independence alone leads automatically to increased firm value.

TABLE 13. REGRESSSION RESULTS 6. FIRM SIZE, COMMITTEE AND BOARD INDEPENDENCE AND FIRM VALUE

Heckman two step consistent estimate of the impact of board independence on firm value, when we split the sample by firm size (Firms with size above the sample median, Big Firm=1, and firms with size below the sample median, Big firms=0). In Panel 13.A, we present results for the outcome equation, in Table 13.B we present results for the selection equation. The dependent variable is the Tobin's Q (*Q*) in all cases. Explanatory variables are the proportion of outsiders in the board (OUTSIDERS), average proportion of outsiders in firms committees (Com. Indep.), proportion of outsiders in monitoring committees (Monit. Indep.), Board Size (LNBOARDSIZE), sensitivity of CEO wealth to changes in stock price (CEO WEALTH), debt to assets ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LNASSETS), industry and year dummies, the inverse Mill's ratio and a constant term. In the selection equation (Panel 17.B) the dependent variable is a dummy that takes the value one if the firm has at least two monitoring committee. The dependent variables in the selection equation are OUTSIDERS, LNBOARD SIZE, OWNERSHIP, a dummy for chair duality (CHAIRMAN), INTERLOCKING, LN ASSETS, industry dummies and year and a constant term. P|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001. The estimated coefficient of the inverse Mills ratio (LAMDA), the correlation between the error terms of the outcome and selection equation, (RHO), and the variance of the outcome regression (SIGMA), are also provided.

Panel 13.A. Outcome Equation. Dependent Variable: *Q*	**Big Firm=1 (1)**	**Big Firm=0 (2)**	**Big Firm=1 (3)**	**Big Firm=0 (4)**
Outsiders in the board	**0.885*** **	-0.405	**-0.770*** **	-0.145
	(0.000)	(0.627)	**(0.000)**	(0.744)
Outsiders in firm comites	0.004	-0.304		
	(0.953)	(0.493)		
Outsiders in monitoring commitees			-0.0368	0.157
			(0.345)	(0.340)
Ln Board Size	0.150	1.05**	0.20**	1.13***
	(0.094)	(0.007)	(0.003)	(0.000)
Leverage	-1.68***	-2.78***	-1.05***	-2.74***
	(0.000)	(0.000)	(0.000)	(0.000)
Wealth Delta	0.000*	0.001***	0.000***	0.001***
	(0.033)	(0.000)	(0.000)	(0.000)
Ownership	-0.448***	-2.42**	-0.5168**	-1.62**
	(0.003)	(0.000)	(0.000)	(0.000)
Assets	-0.087***	-0.605***	-0.095***	-0.491**
	(0.000)	(0.001)	(0.000)	(0.000)
Constant	-1.69***	2.05	1.94***	1.13
	(0.000)	(0.118)	(0.000)	(0.542)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Panel 13.B. Selection Equation				
Dep Var	**Nr. of M >2**	**Nr. Of M>2**	**Nr. Of M>2**	**NR of M>2**
Outsiders	-3.66***	-1.33**	-3.09***	-0.643
	(0.000)	(0.000)	(0.000)	(0.000)
Ln Board Size	-0.713***	0.201*	0.679***	0.220*
	(0.000)	(0.042)	(0.000)	(0.011)
Ownership	-2.07***	-0.488***	-1.94***	-0.426***
	(0.000)	(0.000)	(0.000)	(0.000)
Chairman	-1.014***	-0.500***	-0.948***	0.741***
	(0.000)	(0.000)	(0.000)	(0.000)
Interlocking	0.085***	-0.0983**	0.120***	-0.091***

	(0.000)	(0.000)	(0.000)	(0.000)
Assets	0.070***	-0.357***	0.044*	0.367***
	(0.001)	(0.000)	(0.017)	(0.000)
Constant	3.65***	-1.45***	3.53***	4.46
	(0.000)	(0.000)	(0.000)	(-)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Nr of observations	3507	3062	4313	3890
Censored observations	2075	2005	2075	2005
Uncensored observations	1432	1057	2238	1885
Wald Chi2	594.70	205.74	972.85	319.00
Mills Lambda	-0.08	1.08	-0.090	0.955**
	(0.301)	(0.076)	(0.178)	(0.005)
Rho	-0.011	0.357	-0.1357	0.379
Sigma	0.681	3.04	0.668	2.508

4.5 Robustness test: The use of a GMM System Estimation

To check the robustness of our results, we analyze the relation between board independence and firm value using an alternative econometric technique. We use a dynamic panel GMM estimator, as it is done is previous studies on the relation between board independence and firm value (See Wintoki et al, 2012 for a review), and compare these results, with those of the previous sections, where a two-step maximum likelihood Heckman regression model is preferred.

Using dynamic GMM we control for the plausible bias that results from unobserved heterogeneity, endogeneity and dynamic endogeneity. Unobserved heterogeneity might cause bias in the estimated coefficients as some underlying factors affect simultaneously firm performance and governance, and endogeneity appears because firm performance (or the expected value of performance) might have an impact on the selection of the firm governance design. Dynamic endogeneity appears as current firm performance affects future firm performance through the choice of current governance mechanism, eliminating the assumption of time independent observations. The use of a two-step panel data GMM estimator should solve

these problems. However, the accuracy of the dynamic two-step panel data GMM estimator depends crucially on the selection of adequate instruments to account for endogeneity, as well as on the inclusion of an adequate number of lags to correct dynamic endogeneity.

We measure the relation between firm value and board composition with the following benchmark equation:

$$Q_{it} = \alpha + \beta_0 LagQ_{it} + \beta_1 OUTSIDERS_{it} + \beta_2 LNBOARDSIZE_{it} + \beta_3 INTERLOCKING_{it} + \beta_4 WEALTHDELTA_{it} + \beta_5 LEVERAGE_{it} + \beta_6 OWNERSHIP_{it} + \beta_7 CHAIRMAN_{it} + \beta_8 LNASSETS_{it} + \beta_{9\text{-}17} INDUSTRY_{it} + \beta_{18\text{-}28} YEARDUMMY_{it} + \upsilon_i + \varepsilon_{it} \quad (5)$$

In our benchmark equation, firm value is related to specific firm characteristics, to firm governance structure and to characteristics of the industry where the firm operates. This way, firm value, measured by *Q*, is regressed on OUTSIDERS, LNBOARDSIZE, INTERLOCKING, WEALTHDELTA, LEVERAGE, OWNERSHIP and CHAIRMAN, as proxies for the firms' corporate governance structure, LNASSETS, as proxy for firm size, and 8 industry dummies (INDUSTRY) and 11 year dummies (YEAR) that proxy for the firm business environment. We also include lag performance (LAG *Q*) to control for dynamic endogeneity. The term υ_i is the individual fixed effects and ε_{it} is the normally distributed error term. The results from this benchmark equation are presented in Table 14, column 1.

TABLE 14. REGRESSION RESULTS 7. THE USE OF A GMM SYSTEM ESTIMATION

Two-step GMM estimation of the impact of board independence on firm value, controlling for information on committees. The dependent variable is the Tobin's Q (*Q*) in all cases. Explanatory variables are: last year Tobin Q (LAG *Q*), proportion of non executive directors (OUTSIDERS), number of board members (LNBOARDSIZE), average number of additional board positions of board members (INTERLOCKING), executive Chairman (CHAIRMAN), sensitivity of CEO wealth to changes in stock price (WEALTHDELTA), debt to assets ratio (LEVERAGE), ownership concentration (OWNERSHIP), firm size (LNASSETS), constant term, year and industry dummies. In the first column we present results for our benchmark equation, where *Q* is regressed on the mentioned firm and governance characteristics. In column (2) we include a multiplicative term, NrCom., which is the product of OUTSIDERS and a dummy that takes the value one if the firm has above the sample median number of committees. In column (3) we include a multiplicative term, Indep.Com, which is the product of OUTSIDERS and a dummy that takes the value one if the independence of firm committees is above the sample median. In column (4) the multiplicative term is the product of OUTSIDERS and a dummy that takes value one if participation of CEO in committees is above the sample median. ∑ assesses the joint significance of the estimator for the reference group (OUTSIDERS) plus the multiplicative variable. Arellano-Bond Test of serial correlations, AR(1) and AR(2), and test for over identifying restrictions, Sargan and Hansen χ^2 Tests, are also included. P>|*z*| of estimated coefficients are in parentheses. Stars refer to *p<0.05; **p<0.01; ***p<0.001

Dependent Variable: *Q*	**Benchmark**	**Nr. Com**	**Indep Com**	**CEO Member**
	(1)	**(2)**	**(3)**	**(4)**
Lag *Q*	0.192*	0.193*	0.194**	0.213**
	(0.016)	(0.010)	(0.007)	(0.004)
Outsiders	0.479	0.236	0.244	0.694
	(0.473)	(0.716)	(0.685)	(0.234)
Multiplicative variable		0.272	-.313	-0.125
		(0.226)	(0.125)	(0.559)
Ln Board Size	0.764	0.813*	0.625	0.711*
	(0.053)	(0.029)	(0.056)	(0.017)
Interlocking	0.018	0.018	0.032	0.017
	(0.410)	(0.368)	(0.138)	(0.396)
Chairman	0.0014	-0.108	0.048	0.022
	(0.996)	(0.678)	(0.798)	(0.913)
Wealth Delta	0.000	0.000	0.000	0.000
	(0.625)	(0.921)	(0.693)	(0.470)
Leverage	-3.75***	-3.67***	-3.77***	-3.88***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	-0.84	-0.809	-0.590	-0.685
	(0.124)	(0.134)	(0.141)	(0.105)
Ln Assets	-0.25***	-0.251***	-0.241***	-0.25***
	(0.000)	(0.000)	(0.000)	(0.000)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Constant	2.45***	2.5***	2.85***	2.483***
	(0.003)	(0.001)	(0.000)	(0.001)
AR(1)	-2.27	-2.35	-2.38	-2.47
	(0.023)	(0.019)	(0.017)	(0.014)
AR(2)	-0.00	-0.01	-0.00	0.02
	(0.999)	(0.993)	(0.999)	(0.980)
Sargan Test	639.82	638.98	712.67	712.14
	(0.000)	(0.000)	(0.000)	(0.000)

Hansen Test	221.38	239.24	266.82	262.91
	(0.000)	(0.010)	(0.017)	(0.025)
∑ (Outsiders + Multiplicative)		0.508	-0.069	0.569
		(0.439)	(0.909)	(0.325)
Number of Observations	6 005	6 005	6 005	6 005

From the results of the benchmark equation, we observe a non-significant relation between the proportion of outsiders on the board and firm value in our sample (See Table 14, column 1). The coefficient of board independence, β_1, is positive, 0.479, but not significant. This result is in line with previous studies by Wintoki et al (2012) and Palia (2001), and with our previous analysis, where we use a Heckman regression model as an alternative econometric technique. The coefficient β_1 and its significance are very sensitive to the model specification. Omitting certain explanatory variables (like CHAIRMAN or LAG *Q*) results in a positive and significant coefficient β_1, as in Coles et al (2008) and Yermack (1996). Following Wintoki et al (2012) we argue that the inclusion of lag firm performance is necessary to address the problem of dynamic heterogeneity, and to control for the impact of past firm performance on current performance and current governance.

The results corresponding to the rest of the covariates are in line with those of previous studies. We find a positive –albeit only marginally significant- relation between firm value and board size (Coles et al, 2008), and a non-significant relation between ownership concentration and market value. We also find that larger and more leveraged firms also exhibit lower performance (measured as Tobin's *Q*). We find no significant relation between other governance characteristics (like the CEO being chairman, the average number of additional board positions hold by directors, or the CEO firm ownership) on performance. As with board independence, this lack of significance does not necessarily mean that alternative governance mechanism

are not relevant to firm performance. It might also suggest that value maximizing governance depends on firms' characteristics, the operational and contractual opportunity set and the firms' past performance, and all those features are already taken into account in the information set included in our analysis.

To test whether the intensive use of committees leads to value creation we extend our benchmark model to include in the equation (1) the use of committees, (2) the independence of committees and (3) CEO involvement in committees, and (4) committee size[35], alternatively. Results for these augmented models are included in Table 14, columns (2) to (4)

In Table 14, column (2), we analyze the impact of board independence on firm value, especially for those firms that have on their board a larger number of committees that the sample median. For this test, we include in the benchmark equation a multiplicative term: β_{1B}OUTSIDERSCOM. The multiplicative term is the product of the board outsider rate and a dummy variable that takes the value one if the number of firm committees is larger than the sample median (the median number of committees in our sample is 3). With this multiplicative term we measure the incremental impact of board independence on firm value, for those firms with larger than the median number of committees (which means, those firms that use committees intensively). The regression equation yields:

$$Q_{it} = \alpha + \beta_0 LagQ_{it} + \beta_{1A} OUTSIDERS_{it} + \beta_{1B} OUTSIDERSCOM_{it} + \beta_2 LNBOARDSIZE_{it} + \beta_3 INTERLOCKING_{it} + \beta_4 WEALTHDELTA_{it} + \beta_5 LEVERAGE_{it} + \beta_6 OWNERSHIP_{it} + \beta_7 CHAIRMAN_{it} + \beta_8 LNASSETS_{it} + \beta_{9\text{-}17} INDUSTRY_{it} + \beta_{18\text{-}28} YEARDUMMY_{it} + \upsilon_i + \varepsilon_{it} \quad (6)$$

[35] The test where we include committee size yields similar results as the previous ones, and for ease of explanation this test is not reported here. It is available to the reader upon request

We observe from Table 14, column (2) that the impact of board independence on firm value is relatively similar for firms with a larger (or smaller) number of committees. The impact of board independence on firm value is 0.236 (coefficient β_{1A}) for firms that do not use committees intensively, while the incremental impact is 0.272 (coefficient β_{1B}) for firms with more than three committees in their board. In both cases coefficients are not significant. The impact of board independence on firm value in this model specification (the sum of both coefficients β_{1A} and β_{1B}, which is 0.508) is close to the aggregate impact of the benchmark equation (0.479), which is also non-significant. Besides, the relation between board size and firm performance turns not significant when we include information on the total number of committees in the analysis. This result is in line with previous studies that find no statistical significance between governance variables and firm value (Hermalin and Weisbach, 1991; and Bhagat and Black, 2002), with the argument that firms optimize governance structures (both board composition and committees) according to their characteristics and business opportunity set.

We also observe that including information on the total number of committees, and on the number of monitoring and advising committees, does not influence the coefficients of the variables representing firm characteristics and other governance mechanisms in use. If we compare the coefficients of the remaining variables (Interlocking, Chairman, Leverage and Ownership) from Table 14 column 1, with those of Table 14, columns 2, 3, and 4 we can appreciate that the sign, magnitude and significance of coefficients remain fairly stable. Only in the case of board size, adding information on the total number of committees in the analysis reduces the significance of the coefficient. This coefficient is marginally significant in the benchmark equation

and it turns no significant when we include information on the total number of committees.

In Table 14, column (3) we analyze the impact of board independence on firm value, especially for those firms with committees that are more independent than the sample median. As in the previous analysis, we include in our benchmark equation a multiplicative term, β_{1B}OUTSIDERSINDEP, that is the product of OUTSIDERS times a dummy that takes the value one if the average outsider ratio of the firms committees exceeds the sample median. The regression equation yields:

$$Q_{it} = \alpha + \beta_0 LagQ_{it} + \beta_{1A} OUTSIDERS_{it} + \beta_{1B} OUTSIDERSINDEP_{it} + \beta_2 LNBOARDSIZE_{it} + \beta_3 INTERLOCKING_{it} + \beta_4 WEALTHDELTA_{it} + \beta_5 LEVERAGE_{it} + \beta_6 OWNERSHIP_{it} + \beta_7 CHAIRMAN_{it} + \beta_8 LNASSETS_{it} + \beta_{9\text{-}17} INDUSTRY_{it} + \beta_{18\text{-}28} YEARDUMMY_{it} + \upsilon_i + \varepsilon_{it} \quad (7)$$

From Table 14, column 3, we observe that the impact of board independence on firm value is not significant when we include information on committee independence. We also find that board independence is in general more efficient in firms where the independence of committees is lower than the sample median: the value of the coefficient β_{1A} is 0.244, while the value of the coefficient β_{1B} is -0.313. The first one represents the impact of board independence on firm performance for firms with average committee independence lower than the sample median, while the later reflects the incremental impact of board independence on firm performance for firms with average committee independence larger than the sample median. For those firms (with more independent committees), the impact of board independence on firm performance is -0.069 (∑ asseses the joint significance of the estimator for the reference group plus the multiplicative variable), which is close to zero

and not significant. The change of the sign in the impact of board independence on firm value (positive in the case of firms with more independent committees, and negative in the case of less independent committees) might provide indication that both types of governance structures might behave differently, although the lack of statistical significance does not allow to make inferences about the magnitude or economic impact of those differences. We find that neither the independent coefficients β_{1A} and β_{1B} -nor their joint impact ∑- are significant.

To analyze the impact of board independence on firm value, including information on whether or not the CEO is member of the firms committees, we include in our benchmark equation a multiplicative term, β_{1B}OUTSIDERSCEO. It is the results of multiplying our variable of interest, OUTSIDERS, times a dummy variable that takes the value one if the proportion of committees where the CEO is a member exceeds the sample median. The regression equation yields:

$$Q_{it} = \alpha + \beta_0 LagQ_{it} + \beta_{1A} OUTSIDERS_{it} + \beta_{1B} OUTSIDERSCEO_{it} + \beta_2 LNBOARDSIZE_{it} + \beta_3 INTERLOCKING_{it} + \beta_4 WEALTHDELTA_{it} + \beta_5 LEVERAGE_{it} + \beta_6 OWNERSHIP_{it} + \beta_7 CHAIRMAN_{it} + \beta_8 LNASSETS_{it} + \beta_{9\text{-}17} INDUSTRY_{it} + \beta_{18\text{-}28} YEARDUMMY_{it} + \upsilon_i + \varepsilon_{it} \quad (8)$$

The regression results for this augmented equation are presented in Table 14, column (4). As previously, adding information on CEO involvement in committee work does not improve the explanatory power to the impact of board independence on performance.

The same results (lack of significance) as in the previous section appear when we include committee size (instead of committee independence) in the analysis (the results for these regressions are not presented here, but

they are available upon request). In none of the cases we observe changes in the sign or significance of key explanatory variables when we introduce information about committee sizes in the analysis. Including this information does not change either the estimated relation between governance characteristics (like board size, independence, ownership concentration, dual chair, or CEO incentive alignment), and firm performance.

To test hypothesis (H2) -whether the use of monitoring (advising) committees adds more value in settings with different monitoring (advising) requirements- we run all previous regressions including as explanatory variables the use, the independence, CEO involvement and size of monitoring and advising committees separately. Results for these model specifications, where monitoring and advising requirements are tested separately are not presented here, but are available to the reader upon request. As in the case of the total number of committees, we find that adding information on the number of monitoring and advising committees does not change the sign or significance of the impact of board composition on firm value, nor does it change the impact of other governance characteristics on firm value.

Overall in the regressions presented in Table 14, and in the additional tests performed, the variables measuring firm characteristics and business environment (lagged market Q, leverage, assets and industry and year dummies), are the ones that add most explanatory power to our regression on firm performance, being the coefficients of the variables that contain information on firm governance (board independence, interlocking, chairman, remuneration, and ownership concentration) not significant in all model specifications. From the governance instruments included in the regressions, only leverage is statistically related to firm value in a robust way, although we cannot conclude that this relation is due to governance considerations alone.

The negative relation between leverage and firm value might also reflect the difficulties that stressed firms undergo as a result of excessive debt. The market conditions of the last part of the decade might exacerbate this relation. Overall in the regressions we find that lagged values of market Q have a positive and significant impact on current firm performance, indicating the need to account for dynamic endogeneity in the analysis. We also find that industry and year dummies are in general significant, as firm characteristics and the business environment where it operates have a non-negligible impact on firm value.

From all the variables measuring different aspects of corporate governance, only the natural logarithm of board size appears to have a positive (and marginally significant) impact on firm value, in a model where simultaneity, unobserved heterogeneity and dynamic endogeneity are taken into account. Adding information on committees, both in a multiplicative way and directly as explanatory variables (these later results omitted here, but available to the reader), does not improve the explanatory power of our governance measures, nor does it have a statistically significant impact on firm value.

This lack of significance does not necessarily mean that board independence, or other governance mechanisms, have a negligible impact on firm value. It can have an economic significance: the lack of significance can be due to the fact that firms adapt constantly their governance systems to business and market conditions. However, the fact that Q varies considerably within firms from year to year, while governance characteristics (like board and committee composition) are fairly stable along the years, is at odds with this plausible explanation. If firms where constantly in equilibrium, both types of variables should change simultaneously to adapt in the short term to the new equilibrium conditions. The diverging time path of the variables makes us think

of an additional plausible explanation for this lack of significance, which is based on the econometric techniques used in the analysis.

The use of panel data econometric technique might be partially responsible for the little significance of our key coefficients. The use of a dynamic two step system GMM estimate has two main shortcomings: the first one refers to the use of first differencing right hand side variables with little variation, which might lead to imprecise estimates; the second one refers to the use of adequate instruments for the endogenous variables.

Panel data techniques take firm averages throughout the years in the sample. However, when explanatory variables have little variation along time, mean differencing might lead to imprecise estimates, and other econometric techniques might be more appropriate. The lack of statistical significance of the governance variables in the value regression, and the significant impact of firm characteristics (like past firm performance, leverage, assets and industry and year dummies), are in line with this latter explanation.

With respect to the lack of adequate estimates, there are no single criteria for evaluating the joint strength of the instrument set in a dynamic panel system GMM estimator (Wintoki et al, 2012). We use in our analysis results from Hansen and Sargan Test. Based on our test results, we cannot reject the hypothesis that our instruments are endogenous (the p-values for Sargan and Hansen Test are close to zero, meaning that we reject the null hypothesis of exogenous instruments). This lack of exogenous instruments is pervasive in all model specifications. In our data, that past values of firm governance and differences might not be exogenous instruments when measuring the impact of governance on firm performance, when performance is measured as Tobin's Q. Including other measures of performance as

explanatory variables (like Earnings per Share or Return on Assets) reduces partially the endogeneity problem, albeit it does not change the non-significant relation of board independence, committee variables and firm value relation. It is worth noting that Sargan and Hansen Tests, measure the exogeneity of a subset of instruments, but they do not allow us to make inferences about the suitability of each instrument alone. To address these econometric shortcomings, we choose to analyze our theoretical hypothesis with a Maximum Likelihood Two Step Econometric Techniques.

5. CONCLUSIONS

Boards of directors are arguably the most important governance instrument available to corporations. It is their duty to prevent rent extracting from managers, to analyze the functioning and financing of the firm, to review and approve business strategies, and to provide the managers resources and know how to improve the overall business performance.

To perform its duties efficiently -especially its advisory role- the board needs to obtain information about the firm and business environment from the management team. Because members of the management team are the depositaries of this information, board composition (its degree of independence and its internal functioning in committees) has to balance the adequate proportion of outside board members, who provide supervision and know how, with inside board members, who provide information about the firm and business environment. The use of committees within board has been proposed in the corporate governance literature to improve monitoring and facilitate information transmission between directors and managers.

In this chapter, we look at the joint impact of overall board composition and the composition of the committees in which board work is constituted on firm performance. Using a unique dataset that contains information on corporate governance, board and committees of a representative sample of the key western European economies, we test whether the introduction of information on committees in our model improves the explanatory power of board independence on firm value, and leads to value creation.

Accounting for the nonrandom use of committees, we find a positive and significant relation between the total number of committees and firm value, and a positive and significant relation between the firm average committee independence and firm value.

We also find that the average number of advisory committees is positively related to firm value, while we do not find a statistically significant relation between the independence of the board of directors (and the average independence of monitoring or advising committees) and firm value.

Thus, one can argue, in view of these results, that it is the composition of the committees within the board, rather than the aggregate board structure what is relevant for the creation of value and that firms that adapt their committee structure to their monitoring and advising requirements both in terms of the number of committees and in terms of the average committee independence are able to create value (as they are those firms with higher Q values in our sample).

These results are relevant, as they are at odds with the recommendations to set up strict independence in both the board of directors, and in the monitoring committees within the board (specially the nomination,

audit and remuneration committees). These recommendations are common norm in Corporate Governance Codes in Western European economies, even when a recent strand of the literature, and our work here, do not find empirical evidence of a positive impact of board independence on firm value. In line with recent research (Wintoki et al, 2012; Bebchuck et al, 2010) we do not find statistically significant evidence of a relation between outsiders on the board and firm value. This lack of significance holds even when we include in the analysis information on the number, nature and independence of the committees in which board work is organized, and it is robust to several model specifications and econometric techniques. This lack of statistical relation does not necessarily mean that board composition does not have an impact on performance, but casts doubts upon the statement that board independence, per se, is beneficial for firm value. We contribute with this essay to this strand of the literature, extending the analysis to include the composition and nature of committees in the analysis, and we conclude that the use and independence of advisory committees (which have been less noticed in corporate governance regulations and recommendations) can improve firms governance, and lead to value creation, and we observe that those firms with more numerous and independent committees are the ones with higher Q values in our sample.

Due to the importance of boards of directors for the correct functioning of the firm, we believe that more research is needed to analyze the role of insiders in the board, and the benefits and adequacy of advisory committees, which have been less noticed, both in the academic literature, and in the European Corporate Governance Recommendations. Those advisory committees, despite being less numerous, are a key distinctive feature that relates to incremental firm value in our regression analysis.

CHAPTER THREE.

CEO COMPENSATION AND BOARD COMPOSITION AS ALTERNATIVE INSTRUMENTS OF CORPORATE GOVERNANCE

1. INTRODUCTION

Managerial compensation and board of directors are two of the key governance instruments available to corporations. As such, they have received a lot of attention from academia and policy makers. Academic papers usually concentrate on the impact of a unique instrument on various firm characteristics and performance, although different governance instruments are usually set simultaneously and interact with each other. The impact of these interactions has to be taken into account to get a full picture on how governance affects firm value.

Independent boards are considered optimal safeguard of shareholders value, by closely monitoring the management team, and providing strategic advice and business contacts. The optimal board structure has to balance firms' monitoring and advising needs, information transmission and institutional and market constraints. Besides, owners can also use CEO incentive pay as a governance mechanism. As such, equity linked compensation has been proved to be a powerful instrument to align the interests of managers and shareholders and to prevent rent extracting. However, in setting the optimal pay structure, compensation committees have to take into account the pervasive effects -like implementation of riskier policies, short term strategy, accounting restatement, or camouflaged rents- that excessive pay for performance might lead to.

Additionally, when setting the optimal governance structure, owners have to take into account that boards and managers interact with each other in their functions[36] and duties[37]. Hence, the use of a governance

[36] Boards of directors set CEO pay, and CEOs have a great say in board design, through their choice of board candidates

mechanism, aimed at each one of them (board or management), will have a non-negligible impact on the other. For example, independent directors might have a preference for a certain compensation structure, impacting in this way on CEO policy regarding risk, time preferences, dividend policies, etc. By the same token, a CEO with high pay performance sensitivity might prefer a certain board structure, where loyal board members support his preferred policy choices. To take into account these indirect effects is key in the design of firms' optimal governance structure.

With this study we want to contribute to the analysis on how different governance instruments interact with each other, and what are the indirect effects of alternative governance instruments. Although cross effects are important, there is no agreement in the theoretical literature on what is the optimal governance algorithm for a profit maximizing firm. According to classical principal agent models (for example, those of Holmstrom, 1979, Holmstrom and Milgrom 1991 and Holmstrom and Milgrom 1994), owners can substitute costly monitoring with an adequate incentive system, while the management power hypothesis states that agency problems recede when firms complement (truly) independent boards with pay linked to performance (Bebchuk, Fried and Walker, 2002).

We analyze empirically the relation between board composition and CEO pay as alternative instruments of corporate governance. In particular, we explore whether European firms use board independence and incentive pay as complementary -as Bebchuk, Fried and Walker models of corporate governance suggest- or substitutive governance mechanisms- as in classical principal agent models of contracting. By providing empirical evidence on this

[37] Boards of directors bring valuable advice and business contacts that influence firm management; while CEO and management team are key board members that influence board decisions through their information transmission and voting rights.

relation, we analyze which of the previously mentioned theories is prevalent in the European corporate sector. This question is very relevant in the current political debate, as recent reforms in corporate governance regulations in Europe (starting around year 2002) aim to improve the monitoring and transparency of European corporations. In most countries, regulators include in their Governance Codes recommendations for boards with a majority of independent directors. Whether this is a value maximizing strategy depends on which of the above mentioned theories is prevalent in the European Corporate Sector. Despite the ambiguous theoretical predictions, and the current involvement of policy makers in board design, there are surprisingly few empirical studies focusing on the interaction between CEO incentive pay and board composition as alternative or complementary instruments of corporate governance.

This is the first essay (to our knowledge) to study this relation for a representative sample of the main western European economies. Previous studies, like Guthrie,Sokolowsky and Wan (2012), Chhaochharia and Grinstein (2007), Fahlenbrach, (2009), or Chung (2008) study this relation for the US. The European corporate sector differs significantly from that in the US. The European corporate sector is characterized by high levels of ownership concentration, less market development, and a higher presence of block holders and banks; all features having a relevant impact on the governance mechanisms. Besides, unlike the SOX in the US, governance recommendations in Europe are not compulsory and listed firms are free to deviate from the recommended governance standards. All of these firm and institutional characteristics might have an impact on the role and functions of the board of directors, leading to European boards playing a weaker monitoring role than US boards, and being less independent from CEOs. In addition to that, US CEOs

receive higher pay, and much higher stock and stock option incentives than their European counterparts (Conyon, Core and Guay, 2011). Additionally, the use of equity linked compensation in Europe does not always enjoy the tax benefits that are available to US corporations. Due to this difference in taxation systems, the use of equity linked compensation could be more linked to incentive purposes than total optimization concerns in Europe.

Because the use of equity linked compensation is not generalized in Europe, when studying the relation between board composition and managerial pay, we focus on three aspects of incentive pay: the existence, the level and the intensity of incentive pay. The existence refers to whether or not firms use equity linked compensation (as a governance mechanism); the level refers to the total amount of equity linked compensation granted; and the intensity refers to the proportion of equity linked compensation in CEO total pay. To study these three aspects separately is a contribution of our paper, as it provides deeper insight on how board independence and CEO compensation interact. This feature is very relevant in Europe where equity linked compensation is used in a restricted number of firms. Not accounting for this fact, might provide biased predictions.

In addition to that, we include the monitoring and advisory roles of boards in mapping the relation between board activity and incentive pay. Chhaochharia and Grinstein (2007) and Chung (2008) define the board as the monitoring body of public corporations, and expect a negative relation between board independence and CEO incentive pay based on agency considerations alone[38]. Recent theoretical models predict an ambiguous relation when providing strategic advice becomes a key role function. Because

[38] Chung (2008) finds that firms do not change their active wage policies when increasing their board independence as a result of SOX. The decrease in pay performance sensitivity comes from the CEO reduction of one's own stock holdings

board composition is not uniquely determined by monitoring needs, we include in our analysis proxies for the board advising requirements as key determinants of board composition, and include them in the study of the joint determinants of board composition and incentive pay. We enrich the analysis with a sensitivity test where firms differ in their institutional settings, profitability, information transparency, and thus, in their monitoring and advising requirements. Finally, we include an additional test of entrenchment, where board composition partially explains CEO total compensation, direct compensation and bonus ratio, and check the adequacy of our results.

Our results suggest that board independence (measured as the proportion of outside directors in the board) and incentive pay (equity linked compensation grant to the CEO) are complementary instruments of governance in European corporations. A 1% increase in the proportion of outsiders on the board implies a 0.194% increase in the proportion of CEO pay that is linked to equity (stocks and stock options), and a 1.539% increase in the total amount of equity linked compensation that the CEO receives. We also find a positive relation between the proxies for monitoring intensity and the proportion of equity linked compensation paid to CEOs (the probability of receiving equity linked compensation increases with firm size, ownership dispersion, and board interlocking, while it decreases with leverage and CEO time in role). We also find that the grant of equity linked compensation is positively related to firm value, measured by the firm market Q value. We interpret this result as evidence that firms use both governance instruments as mutual complements to reduce their agency problems. Further sensitivity analyses show that this complementarity is not country-based or industry specific and it appears in firms with different ownership concentration levels, different board sizes and different earnings profiles.

In general, our results are more in line with the proposal suggested by Bebchuk, Fried and Walker (2002) than with agency considerations. The probability that the CEO receives equity linked compensation decreases with every additional year of duty, and it also decreases when his position is shared, which is in line with the prediction that the more powerful CEOs prefer to include less incentives in their compensation packages. We find in our analysis that firms with a higher proportion of outsiders on the board pay less to their CEOs (both salary and total compensation), and provide higher incentives, once selection into equity linked plans is taken into account.

The rest of the chapter is organized as follows: Section 2 provides a review of the literature. A theoretical model of board composition and management pay is presented in section 3. Section 4 includes data description. Results are explained in section 5, and in section 6 we present additional robustness tests. Section 7 concludes.

2. LITERATURE REVIEW

According to agency theory, management compensation is a powerful instrument to align the interests of shareholders and management (Holmstrom and Kaplan, 2001 and Holmstrom 2006). In a corporate governance setting, owners can substitute direct monitoring of managers with pay schemes linked to firm performance. As monitoring is one of the key duties of the board, we should observe a negative relation between board monitoring and CEO incentive pay in corporations where ownership and control are clearly separated. In a principal-agent framework, incentive pay schemes are more powerful when the agent (the CEO) has greater influence on firm output (firm

performance). Thus, in order for this instrument to work, a payment scheme strongly linked to performance has to be paired (ceteris paribus) with a less independent board, where CEO actions are not restricted by loyalty issues, burdensome bargaining or strong opposition of board members. Boards of directors and compensation contracts could be perceived as substitutive governance mechanisms.

Although this negative relation is key in principal agent models, empirical evidence on the relation between board monitoring and CEO incentive pay is relatively scant, and has yielded conflicting results. Using US data, Denis and Sarin (1999) and Shivdasani and Yermack (1999) find evidence of a negative relation between outsiders on board and managerial ownership, while Ryan and Wiggings (2004), Davila and Peñalva (2006) and Coles, Lemmon and Wang (2008) find a positive relation. Using US data as well, Conyon (2006) demonstrates that compensation committees containing affiliated directors do not set greater pay or fewer incentives.

An alternative theoretical benchmark to explain the relation between managerial incentives and board design is the managerial entrenchment hypothesis suggested by Bebchuck, Fried and Walker (2002). They argue that managerial influence over pay arrangements on boards has produced considerable distortions on these arrangements. Measures aimed at minimizing those distortions should increase shareholder value. This way a less entrenched and more accountable board, paired with a managerial pay arrangement linked to performance, would lead to an increase in shareholder value.

Supporting this theoretical predicition, Conyon and He (2004) find a positive relation between independence of compensation committee and

incentive pay suggesting that both elements of governance are complementary. Bertrand and Mullainathan (2000) find that lower pay performance sensitivity is associated with weaker governance, and Mehran (1995) finds that equity based compensation is used more extensively in firms with more outside directors. Ryan and Wiggins (2004) find that firms with more outsiders on the board award directors more equity linked compensation.

On the other hand, Fahlenbrach (2009) finds that interactions of the corporate governance mechanism with total pay-for-performance and excess compensation can be explained by governance substitution in the US. He argues that his results are inconsistent with recent claims that entrenched managers design their own compensation contracts. Also Maslu (2010) analyzes the relation between disclosure, directors pay and board composition in Europe. Using a small sample, concentrated on large economies such as the UK, France and Germany, Maslu finds that sensitivity of executive pay to performance increases with the proportion of top executive serving as board directors.

A recent extant of the theoretical literature emphasizes the fact that the directors need to obtain information from CEOs and managers to implement better their monitoring and advisory roles. Including information sharing in their model, Kumar and Sivaramakrishnan (2008) predict an ambiguous relation between board dependence and a manager´s equity based compensation in a setting where incentive compensation is endogenously determined. Also Ozerturk (2005) presents a model where a board of directors not completely independent of the CEO set the CEO´s pay. He shows that the board's monitoring intensity and the equilibrium pay-performance sensitivity of CEO's pay are increasing in the board's independence.

Four recent studies, (Guthrie, Sokolowsky and Wan, 2012; Chhaochharia and Grinstein, 2009; Chung, 2008 and Wuang, 2004) test the relation between incentive pay and board independence using the cuasi natural experiment provided by the regulatory changes in the US in year 2002[39]. Chhaochharia and Grinstein (2009) find a significant reduction in CEO pay and an increase in CEO incentives in firms that changed their ratio of independent directors to comply with SOX regulations. These results have been questioned by Guthrie et al. (2012) who argue that the negative relation might be driven by a single outlier. Guthrie et al. (2012) conclude that board independence has no effect on the level of CEO pay. Chung (2008) finds that CEOs of firms affected by SOX independence requirement reduce their firm wealth, yet there is not a substantial change in the firm management pay policies, after changes in board independence. The overall fall in pay performance sensitivity might be due to the CEOs´ aggressive stock selling, rather than boards changing their active firm policies to respond to requirements to increase independence. Finally, Wuang (2004) does not find cross sectional association between endogenously determined board independence and option pay sensitivity. However, she finds that the level of board independence is negatively related to the level of equity based component of managerial compensation.

Finally, a study by Maslu (2010) analyzes the relation between disclosure, directors wealth and board composition in Europe. He finds a negative relation between stock ownership and greater number of executives on the board. His sample is concentrated on large economies such as UK, France and Germany.

[39] The Sarbanes-Oxley Act (SOX) required US listed firms to have a majority of independent directors

We contribute to this research question adding empirical evidence on a complementary relation between board structure and pay incentives, using a representative sample that covers the main Western European economies. We also include in the analysis the advisory function of boards, and we control for the non-random grant of equity linked compensation.

3. THE ECONOMIC DETERMINANTS OF BOARD COMPOSITION AND INCENTIVE PAY

3.1 The relation between board composition and incentives in an agency model framework

For a determination of optimal pay incentives, we use the Holmstrom and Milgrom (1991) benchmark model of incentive pay. Holmstrom and Milgrom stress the fact that the incentive contracts induce the managers to exert higher levels of effort, but they also expose them to risk, because perfect measures of effort and output are hardly available. Firms have to trade off the higher effort levels with contract inefficiency as a result of noise in the measures of output and effort.

Accordingly, the optimal intensity of incentives- in a firm without any other governance mechanism- is determined by the sensitivity of firms profits to managers´ effort, the volatility of firm profits, the manager degree of risk aversion, and the response of firms profits to managers 'efforts. Incentives are more powerful when the manager has greater influence over firm profits, when profits respond positively to manager's effort and when those profits are less risky. By contrast, they are more costly to the firm when the manager is risk averse and when the cost of effort to the manager is higher.

In the Holmstrom and Milgrom (1991) benchmark model, the agent (the CEO) has full responsibility for the firm governance. We extend this benchmark model to include the board of directors as an additional instrument of governance. When the role of the board is to monitor the management, the principal can choose between increasing monitoring effort or the intensity of management pay incentives. Thus a monitoring board and a steep pay scheme would be substitute instruments of governance (Chung, 2008), and the incentive intensity will be lower concomitantly with the higher the board monitoring intensity. In our empirical specification, we account for the fact that boards have also a duty to advise the management on key strategic firm decisions. This influence of the board affects the sensitivity of firm´s profits to management efforts – and thus the power of incentives- in two opposing ways.

By providing advice, the CEO can make more informed decisions over firm strategy. This way, an advisory board improves the returns to managerial effort. Thus, and advising board can enhance the incentive intensity. On the other hand, the influence of the board on the decision making process can diminish the impact of the CEO over firm´s profits, when the preferred strategy of the board and the CEO differ. The CEO might incur costly bargaining with the board over firm strategy, whilst not even being able to implement his most desired strategy. If that were the case, then linking CEO pay to firm performance would not reward the CEO for his increased effort, and the advisory role of boards could be a deterrent to managerial incentive pay.

Whether or not the advising intensity can be paired with steep incentive schemes depends on which of the above mentioned effects is prevalent. Under certain circumstances, the cost and benefits of an advising board become relevant, and have a clear impact on board design. For example,

smaller boards with strong leadership can minimize the bargaining and time costs of restructuring processes. On the other hand, an advisory-intensive board can be beneficial in sectors with high growth opportunities, despite the bargaining and the delay of decision making processes.

We expect the positive effect over the CEO decision making to prevail on average; otherwise an advising board would be inoperative.

The link between management incentives and board composition depends on the relative weight of the advisory and monitoring role of the board of directors. The intensity of pay incentives will depend on the structure of the board of directors, and this will depend of the monitoring and advising needs. We expect to find negative relation between the board monitoring intensity and incentive pay.

On the other hand, the relation between and advising board and the effectiveness of CEO incentives is not so clear-cut. As we mentioned above, the quality of the information provided by the board, might enhance the productivity of CEO effort, while conflicting opinions over firm strategy might have the opposite effect. For the board to provide useful advice, the first effect has to be prevalent, leading us to expect a positive relation between the intensity of pay incentives and intensity of advice provided by the board.

In this agency model setting, firm characteristics and characteristics of the markets where the firm operates are the key relevant determinants of board composition. Board structure, in turn, provides a framework for the design of the CEO pay structure. Incentives will be prevalent in settings where board advice and information sharing are relevant, as in the case of complex and growth firms. On the other hand, in firms where the CEO's chances of rent extracting are bigger (for example in bigger firms or in firms with dispersed

ownership) a governance structure consisting of a monitoring board and a flatter incentive pay is preferable.

3.2 The optimal incentive pay in a managerial power framework

According to Bebchuk et al. (2002), agency considerations explain only partly the design of compensation contracts. This is the case, as compensation contracts are not a full result of an "arm's length" bargaining between managers and shareholders. It is in the interest of the CEOs to exert power over the board to extract private rents. Their chances of rent extracting increase with captured and less independent boards. In an entrenchment framework, board composition is not only determined by the firm monitoring and advising necessities, but also by the CEO power to set his preferred directors. Outside directors are more independent from the CEO, and they have more power to prevent CEOs' rent extracting. Thus, according to managerial power hypothesis, the total amount of CEO pay will be closer to market level in firms with more independent boards (ceteris paribus), while it will be higher when the CEO exerts its power over the board.

Bebchuk et al. (2002) also stress the importance of defining a truly independent board. Although outside and independent directors have in theory more freedom to oppose the CEO, there are alternative mechanisms by which the CEO can capture the board. The CEO will exert more power over the board if he has the power to nominate independent directors. Besides, the board can be entrenched if directors have insufficient incentives to oppose the CEO (because they have little stake on the firm, because of reputational costs or because directors and managers hold interlocked board positions). Also, some board dynamics, group pressure or support and fire model, allow the CEO

to exert power. When the CEO has reached a critical mass of supporting directors within the board, group pressure makes it difficult for individual directors to oppose the group on critical issues like compensation, new appointments or strategy. In a "support and fire" dynamics of board behavior directors have a say on choosing a CEO and replacing him if his performance is not adequate, but, once a CEO is chosen directors should either support his strategies or replace him.

According to Bebchuk et al. (2002), pay incentives are an additional instrument to improve governance, and prevent rent extracting. These authors do not question the desirability of using equity linked compensation (like options plans) to compensate executives. However, under a managerial power approach, compensation can be used to camouflage rent extracting, preventing public outrage. This desire to camouflage might lead to the adoption of inefficient compensation structures. Pay arrangements are especially sensitive to camouflage in big public firms with transparent compensation arrangements. Those are the firms that attract the attention of the press and the general public, making regulators more sensitive to pay levels in those firms.

In order to measure to what extent the magnitude and design of an adopted option pay scheme is close to what would arise under optimal contracting one has to look at the special characteristics of each of the individual option plans. The managerial power approach can explain the adoption of equity linked compensation plans with insufficient incentive power, using this camouflage approach. This way, option plans lose their incentive power if they do not filter out the industry effect (when options are not indexed or benchmarked), if they allow managers to hedge or undo their position (selling and repricing options, hedging, or selling stocks they already

held when granted new options), or if options are not correctly priced (optimal strike price should depend on factors like managerial degree of risk aversion, volatility of the company stock rate of inflation, length of executive contract, etc.).

In short, according to Bebchuk et al. (2002) and Bebchuk and Fried (2004), when a less independent board is in place (due to firm or industry specific characteristics, or the CEO having more influence over board composition), the CEO will use his influence over the board to set lower incentives and higher total compensation for him and his management team[40]. Thus, one could expect firms with more independent boards to set lower pay levels and higher incentives in the form of pay performance sensitivity.

4. DATA AND RESEARCH STRATEGY

4.1 Research strategy.

For a study of the relation between board independence and equity linked compensation, we use two variables that are widely presented in the Corporate Governance literature: for a measure of CEO incentive pay we use equity linked compensation in the form of grants of shares and stock options to the CEO; for a measure of board independence we use the ratio of supervisory directors (those that are not a part of the management team) to the total number of directors[41].

[40] The CEO captures executive directors by paying them above market level compensation

[41] For countries with a two-tier board structure (like Germany) we define board independence as the total number of supervisory directors divided by the sum of total number of supervisory directors plus the total number of members of the executive team

The use of equity linked compensation is not as widespread in Europe as it is in the USA. Not every European CEO is selected into equity linked plans. Besides, CEOs in firms that use equity linked compensation receive, on average, a lower proportion of their annual pay in this form than do their US counterparts. Thus, in studying the use of equity linked compensation in Europe, three measures of equity linked compensation are relevant: the propensity to use equity linked compensation, the intensity of equity linked compensation and the level of equity linked compensation.

The propensity to use equity linked compensation is analyzed separately in our study, because not every firm in Europe uses equity linked compensation, and those that use it, do not grant equity linked compensation every year, systematically. This fact generates a selection problem that we take into account using a two-step procedure Heckman (1979). In a first step the non-random selection into equity linked schemes is taken into account, while in the second step, the extension and intensity in use of CEO compensation schemes is explained by managerial and firm factors. Using a two-step selection approach, we account for the bias that might appear, as a consequence of non-random selection into equity linked compensation schemes.

We use a Heckman regression model to run the following regressions:

$$INCENTIVE_{it} = \delta_0 + \delta_1 OUTSIDERS_{it} + \delta_2 AGE_{it} + \delta_3 CEOWEALTH_{it} + \delta_4 TIMEINROLE_{it} + \delta_5 CEOOWNERSHIP_{it} + \delta_6 LNASSETS_{it} + \delta_7 VOLATILITY_{it} + \delta_8 YEAR_{it} + \rho\sigma_1\lambda_{it}(Z_{it}) + \varepsilon_{it} \quad (1)$$

$$Pr(INCENTIVE_{it}=1)=\varphi_0+\varphi_1 OUTSIDERS_{it}+\varphi_2 LNASSETS_{it}+\varphi_3 OWNERSHIP_{it}+\varphi_4 LEVERAGE_{it}+\varphi_5 TIMEINROLE_{it}+\varphi_6 Q_{it}+\varphi_7 INDUSTRY_{it}+\varphi_8 BOADSIZE_{it}+\varphi_9 MD_{it}+\varphi_{10} INTERLOCKING_{it}+\varphi_{11} YEAR_{it}+\varphi_{12} COUNTRY_{it}+\nu_{it} \quad (2)$$

In the outcome regression, equation (1), the amount or intensity of incentives (INCENTIVE) is explained by the proportion of outside directors on the board, by the CEO degree of risk aversion, by the degree of asymmetric information between the CEO and the owners, and by firm specific characteristics and market level conditions. We use two alternative measures of incentives as dependent variable: the total amount of equity linked compensation granted in logarithm (LOG EQUITY), and the ratio of equity linked compensation to total compensation (EQUITY RATIO).

We include the proportion of outside directors within the board (OUTSIDERS) as an explanatory variable to check whether firms use both instruments of corporate governance jointly or as complementary. A positive (negative) sign implies that firms use both instrument as complements (substitutes). We include the variables AGE and CEO WEALTH to proxy for the CEO degree of risk aversion, as younger and wealthier individuals are –ceteris paribus- less risk averse than older and less wealthy individuals[42]. We include as CEO wealth the logarithm of the value of cumulative holdings over time of stocks, stock options and long term incentive plans. Although the variable wealth represents the CEO ownership in the firm, and not his total wealth, we use this variable as a proxy for CEO wealth, as CEO's portfolio is usually undiversified, and the firm he manages constitutes his biggest source of income.

[42] Becker (2006) shows, using data on the wealth of Swedish CEOs, that higher wealth CEOs receive stronger incentives

The magnitude of the agency problem depends on the degree of asymmetric information between the owner and the managers about the CEO abilities and effort, and on the alignment of interests of CEO and owners. We include CEO seniority within the firm (TIME IN ROLE) to proxy for the magnitude of the agency problem. As the CEO gains seniority within the firm, the owners learn about CEO's abilities and effort provision. Thus, one should expect the variable that measures time in role to be negatively related to the amount and to the proportion of incentives. The alignment of interests of the owners and the CEO is related to how much equity linked compensation he has been granted up to date. We use CEO wealth divided by firm market capitalization (CEO OWNERSHIP) as proxy for this alignment of interests.

Firm characteristics influence the impact of CEO effort on firm output. CEO effort provision will be more attached to firm profits in bigger and less volatile firms, and we include firm size and price volatility to account for this fact. The returns to managerial effort should be greater in bigger firms (Hermalin, 2005; Gabaix and Landier, 2008). Besides, firm size should also have a positive impact on incentives as agency problems are greater in bigger firms. Firm size is also included to control for firm specific levels of complexity, technology, and differences in the production function. As a measure of firm size we use the natural logarithm of totals assets (LNASSETS). The volatility of stock prices (PRICE VOLATILITY) reflects the firm-specific market risk.

The term $\rho\sigma_1\lambda_{it}$ (Z_{it}) corrects the selection bias in which we would incur if we did not take into account the fact that not every CEO is selected into incentive pay schemes every year. It contains the correlation, ρ, between the probability that the firm has an incentive pay scheme that year, which is the dependent variable in the selection regression, and the incentives provided, which is the dependent variable in the outcome regression. It also contains the

standard deviation of incentives, σ_I, and the inverse Mills ratio, $\lambda_{it}(Z_{it})$. The inverse Mills ratio is a statistical instrument, included in the Heckman selection model to account for selection bias. Technically, it is the quotient between the density function and the cumulative function of the joint distribution of the explanatory variables included in the selection equation: $\frac{\phi(\varphi_{it}Z_{it})}{\Phi(\varphi_{it}Z_{it})}$, where z_{it} are the dependent variables of the selection equation. The coefficient of inverse Mills ratio determines the magnitude of the selection effect. Note that in the absence of a selection effect, ρ is very close to zero and the coefficient of this term turns out to be insignificant. The last term, ε_{it}, is the zero-mean normally distributed error term.

In the selection regression, equation (2), the dependent variable ($INCENTIVE_{it}$ =1) is a binary variable that takes the value of 1 if the CEO receives any kind of equity linked compensation in the year t. We include as explanatory variables, variables that measure or proxy for the firm corporate governance design (which include the use of alternative governance mechanism), the board composition, and firm and institutional constrains. We also include variables that measure the monitoring and advising needs, because these needs, together with the use of other governance mechanisms, configure the board of director's composition. Including those factors, we prevent an omitted variable bias in our measure of the complementary or substitutive roles of boards and compensation.

We have argued in section 3 that, in an agency model framework, the board monitoring intensity is negatively related to incentive pay, as owners substitute direct board monitoring with CEO incentives. Thus, we expect firms with stronger monitoring boards (bigger firms and firms with less leverage) to grant less equity compensation if board control mechanisms are in play. On the

other hand, the advising intensity is positively related to CEO incentives: by bringing advice and expertise to the decision making process, the board improves the returns to CEO effort, making incentive compensation a less costly and more suitable form of pay. In an agency model framework, boards with strong advising intensity (boards in more complex firms and firms with more growth opportunities) provide more incentives.

We use firm size (LNASSETS), ownership concentration (OWNERSHIP), leverage (LEVERAGE) and CEO seniority (TIME IN ROLE) as proxies for the need of monitoring. An increase in firm size increases the monitoring needs, as bigger firms are more complex, and this complexity increases the chances of rent extracting. Besides, CEOs might favor increases in firm size above optimal levels, as bigger firms pay higher salaries. Ownership concentration is arguably negatively related to board monitoring, as shareholders with a large stake in a firm have an interest to monitor the management directly. On the other hand, leverage is supposed to be negatively related to board monitoring, as in more leveraged firms, shareholders share the benefits of monitoring with debt holders, while bearing all costs. Thus, monitoring by debt holders reduces the need of board monitoring. Besides, the need for funds can make the firm increase its transparency levels, making the CEO's effort more easily observable.

Time in role accounts for the power that the CEO exerts over the board. A CEO with longer tenure exerts power in choosing his preferred directors, which increases his chances to extract private rents. Thus, CEOs with longer seniority should be monitored more intensively. On the other hand, as CEOs acquire seniority, owners learn about their abilities and effort provision, diminishing the need for monitoring. The sign of the variable TIME IN ROLE will determine which of these opposing effects is prevalent.

The firm's need for board advice is determined by its growth opportunities, and by firm specific, and market, levels of complexity. We use firm value (Q) and industry dummies (INDUSTRY) to measure growth opportunities, and market levels of complexity. We argue that firms with higher market Q are those in need for advising, due to their greater growth opportunities. We use industry dummies to control for differences in product characteristics and a firm's specific knowledge. Such variables inform about the advice intensity required according to the firm level of complexity.

Additionally, we include a group of control variables related to the firm corporate governance, as a firm with better governance should have lower need of using equity linked compensation. Those variables are board size (BOARD SIZE), the additional number of board positions in listed companies that the CEO is holding (INTERLOCKING), and a dummy variable for whether the position of CEO is shared in the firm (MD).

The CEO number of additional board positions (INTERLOCKING) has a two sided impact on the quality of governance. It might measure the CEO's managerial ability, which should be positively related to incentives, but it could also reflect board entrenchment, which is arguably negatively related to incentives. Interlinked boards can be seen as entrenched boards[43], and CEOs who have an influence over their pay would prefer less pay performance sensitivity (Bebchuk et al., 2002). The sign and significance of the coefficient will provide evidence on which of the above mentioned effects is prevalent.

The number of executives with a job title reflecting a chief position (MD) gives us a hint about a firm's organizational structure. We expect a firm where two executives hold a "co-CEO", "joint-CEO" or "division-CEO" position,

[43] Ryan and Wiggings (2004)

to have a less concentrated power structure. Thus, in such few firms, we expect the managing director to have less individual power, and we expect a positive relation between the number of executives holding a CEO position and the grant of equity linked compensation.

Board size is a board control variable. The impact of board size on incentives depends on the relative importance of monitoring and advising role of board members. Arguably, larger boards monitor better and provide better advice, both actions having a divergent impact of board size on incentives.

Finally, institutional constrains (like the recommendation to have a majority of independent directors, level of shareholder protection, etc.) are accounted for with the use of a country dummy and a year dummy.

4.2 Data

The dataset comprises information on listed companies for the main Western Europe Economies during the years 1999-2007. The total number of observations is 12 362, which correspond to 2 668 companies in 15 countries. The panel is unbalanced, containing the first half years of the sample a lower number of observations (only 39.19% of the observations correspond to the period 1999-2003, while 60.81% of the observations correspond to the years 2004-2007). For 334 firms (12.52% of the total number of firms), we have information for all the years in the sample; for 57.2% of the companies in the sample, we have more than four years of data, which means that over 70% of the observations correspond to firms for which we have more than 4 years of data.

For each firm in the sample we have data on governance measures and firm book and market values. Information on governance has been

obtained from the data supplier BoardEx, while data reflecting firm characteristics and firm value have been obtained from Thomson database. BoardEx contains information on executive and supervisory directors in every firm in the sample. For every director in a firm, BoardEx provides information on age, number of board positions, compensation, wealth, director role and years of experience. Aggregating this information at firm level, it yields a panel on governance measures which include the name of the CEO, his age, time in role, compensation, wealth, experience, number of additional board positions, and the number of executives with a co-management position[44]. The dataset also includes board size and proportion of outsiders on the board. BoardEx also contains an industry classification, which is used to create the industry dummies.

Thomson database contains information on firm characteristics, like firm size (market capitalization, assets), leverage, ownership concentration, profits (operating profit per share, return on assets, return on equity etc.), risk (price volatility), and other firm characteristics. The description of the variables used in the analysis is presented in Table 1.

TABLE 1. VARIABLE DESCRIPTION

Table 1 presents the definitions of the variables included in the analysis. The first column shows the variable name. The second column presents the variable definition, and a label indicating the source of the data. The label (a) refers to governance measures obtained from BoardEx database, label (b) refers to information on firm characteristics and book and market values, provided by Thomson, while variables labeled (c) have been constructed by us transforming the original Thomson and Boardex data.

Variable	Definition
CEO Individual Characteristics	

[44] In 1.93 % of the annual observations, the CEO position is shared. The CEOs usually hold the job tittle "joint CEO" or "division CEO". In those cases we have maintained as key CEO the executive with highest income. In case of both joint CEOs having the same income, we have kept one of them randomly

AGE	CEO age[a]
TIME IN ROLE	Number of years the CEO has hold this position at his firm[a]
INTERLOCKING	Number of board positions that the CEO holds in listed firms[a]
CEO Compensation	
DIRECT COMPENSATION	Sum of all cash based compensation for the period[a]
EQUITY LINKED COMPENSATION	The sum of shares awarded, estimated value of options awarded and long term incentive plans awarded in the period selected[a]
TOTAL COMPENSATION	Direct compensation plus equity linked compensation[c]
EQUITY RATIO	Equity linked compensation divided by total compensation[c]
EQUITY DUMMY	=1 if the firm grants equity linked compensation to the CEO in the current year; 0 otherwise[c]
BONUS RATIO	Bonus as a proportion of total direct compensation less pension Bonus/(Bonus+Salary) [b]
CEO WEALTH	Value of cumulative holdings over time of stock, options and long term incentive plans for the CEO (Total Equity Linked Wealth = Value of Total Shares held + Value of LTIP Held + Estimated Market Value of Options Held) [a]
CEO OWNERSHIP	Value of CEO cumulative wealth divided by firm's market capitalization[c]
Corporate Governance	
BOARD SIZE	Number of board members[a]
OUTSIDERS	Proportion of non-executive directors on the board[c]
ODB	=1 if outsiders > 0.5[c]
MD	=1 if the CEO position is shared by two or more executives (as joint CEOs)[c]
Company Information	
ASSETS	Total assets [b]
OWNERSHIP	Closely held percentage. It is the ratio of number of closely held shares to common share outstanding[b]
LEVERAGE	Total debt divided by total assets[c]
PRICE VOLATILITY	A measure of a stock's average annual price movement to a high and low from a mean price for each year. For example, a stock's price volatility of 20% indicates that the stock's annual high and low price has shown an historical variation of +20% to -20% from its annual average price[b]
Q	The sum of market capitalization plus total assets minus common equity, divided by total assets[c] .
OPERATING PROFIT	Operating profit per share [b]
ROE	Earnings per share last twelve months/ Prorated book value per share * 100[b]

ROA	[Net Income before preferred dividends+((Interest expense on Debt-Interest capitalized)*(1-tax rate))]/Average of last year´s and current year's Total Assets * 100 [(b)]
INDUSTRY	45 Industry sectors[(a)]
COUNTRY	The country where the company is headquartered[(a)]
UK	=1 if the country of incorporation is United Kingdom [(c)]
NEWTECH	=1 if BoardEx classifies the firm into one of the following sectors: "Electronic and Electrical Equipment", "Information Technology and Hardware", "Software and Computer Services" [(c)]

For every CEO in our sample, we have information on his yearly compensation. This information contains CEO's yearly direct compensation, which is the sum of salary plus bonus (DIRECT COMPENSATION), the market value of shares plus stock options (EQUITY LINKED COMPENSATION, OR EQUITY), and the sum of direct compensation plus equity linked compensation (TOTAL COMPENSATION). It also contains the proportion of bonus in the CEO direct compensation package (BONUS RATIO). With this information we have constructed a dummy variable that takes the value of one if the amount of equity linked compensation is above zero (EQUITY DUMMY), and the proportion of equity linked compensation on total compensation (EQUITY RATIO).

Regarding board composition, BoardEx provides information on the total number of board members (BOARD SIZE), and the total number of executive and non executive directors on the board. With this information we construct the variable OUTSIDERS, as the ratio of non executive directors to board size. Outsiders reflects the proportion of non executive directors on the board. The variable ODB (Outsider Dominated Board) takes the value 1 if the majority of board members are non executive directors.

The countries included in the analysis (and the number of observations for each country) are presented in Table 2.

TABLE 2. DISTRIBUTION OF THE DATA BY COUNTRY

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Table 2 presents the distribution of the data by country. The first column lists the countries included in the dataset. The second column presents the total number of observations through all the years in the sample, by country. Percentage refers to the weight of each country on the total sample. Finally, the last column shows the total number of firms that each country has in the sample

Country	Nr. of Observations	Percentage	Nr. of Firms
Austria	50	0.40	27
Belgium	319	2.58	56
Denmark	120	0.97	20
Finland	51	0.41	13
France	1 163	9.41	229
Germany	561	4.54	138
Greece	98	0.79	32
Ireland	296	2.39	60
Italy	401	3.24	90
Luxembourg	46	0.37	13
Netherlands	483	3.91	93
Portugal	77	0.62	19
Spain	328	2.65	61
Sweden	618	5.00	112
UK	7 751	62.7	1 707
Total	**12 362**	**100.00**	**2 668**

In this sample, all Western European countries are represented. Coverage differs significantly from country to country, being UK very well represented in our sample (UK accounts for 62.7% of the observations). Still, for every country we have a representative sample (at least 50 observations for the smallest countries), which allows us to make country-based comparisons.

Descriptive statistics are presented in Table 3. All monetary variables have been deflated using 2005 prices as baseline. We have also winsorized the key variables at 1% and 99% in order to minimize errors and avoid outliers biasing our results.

TABLE 3. SUMMARY STATISTICS

For each variable we present the number of observations (Column 2), mean (Column 3) and standard deviation (Column 4), and the minimum (Column 5) and maximum (Column 6) values.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Age	11819	50.7842	7.7571	25	81
Time in Role	12362	4.564714	4.9929	0	39.8
Interlocking	12355	1.5625	1.2153	1	18
Direct Compensation	12362	681.4683	881.734	0	6045.959
Equity	12362	552.4473	1496.057	0	11954.54
Total Compensation	12362	1233.916	2089.858	0	16430.54
Equity Ratio	12362	0.1952	0.283	0	1
Equity Dummy	12362	0.425	0.494	0	1
Bonus Ratio	9583	0.232	0.224	0	1
CEO Wealth	12362	10283.87	32881.06	0	333529.9
CEO Ownership	12276	0.040862	0.09938	0	0.94976
Board Size	12362	8.902	4.296	2	36
Outsiders	12362	.6001	.1843	0	1
ODB	12362	.6209	.4852	0	1
MD	12362	0.01928	0.1374	0	1
Total Assets	12362	11659.66	48103	2.06	378376.8
Ownership	11742	34.345	24.503	0	100
Leverage	12357	0.2071	0.1866	0	0.8414
Price Volatility	8737	33.056	13.196	4.02689	88.22396
Q	12276	2.002	1.639	0.6911	10.98
Operating Profit	12321	1.0942	2.642	-3.05	17.088
ROE	8763	6.59	66.99	-3381.973	3603.438
	9325	1.06	15.87	-78.76	24.19
Year	12362	2003.986	2.363	1999	2007
UK	12362	.6270	.4836	0	1
NEWTECH	12362	0.1607	0.367	0	1

An average CEO in our sample received on average 1 234 000 US dollars. CEOs receive equity linked compensation in 42.52% of the observations, while in the rest (57.48%) CEO pay contains no equity linked compensation. As many as 1 759 firms in our sample do not grant options or any other type of stock grants to their CEOs during the years 1999-2007. For the years when the CEOs received equity linked compensation, this type of pay made up to 45.9% of their total pay.

TABLE 4. COMPENSATION AND GOVERNANCE BY YEAR

Yearly descriptive statistics of key variables in our analysis. Each row shows the yearly average. Compensation figures comprise Direct compensation, Equity linked compensation, Total compensation, bonus ratio, Equity ratio, Equity dummy and CEO wealth. Board characteristics are Board size, Outsiders and Outsider dominated board. The number of observations per year is included in the last row.

year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Direct	560.34	542.16	497.68	571.64	644.22	748.83	659.85	751.81	838.14
Equity[1]	640.45	910.06	789.42	646.59	820.97	872.34	972.11	1031.6	1044.98
Equity[2]	442,9	598	510,35	398,92	502,17	519,69	588,17	615,4	632,05
Total	1003.3	1140.6	1008	970.56	1146.4	1268.5	1248	1367.2	1470.2
Bonus	0.221	0.226	0.200	0.218	0.22	0.234	0.227	0.236	0.255
Eq. ratio[1]	0.40	0.46	0.45	0.39	0.43	0.44	0.48	0.50	0.49
Eq.ratio[2]	0,16	0,20	0,194	0,17	0,19	0,189	0,21	0,207	0,196
Eq.dum.	0.40	0.43	0.43	0.44	0.44	0.43	0.43	0.41	0.40
Wealth	8651	13331	8852	6674.7	8236	8823	9918.9	12367	12963
B. Size	10.75	10.15	9.78	9.5	9.18	8.71	8.42	8.25	8.24
Outsiders	0.6	0.6	0.6	0.6	0.6	0.596	0.597	0.596	0.605
ODB	0.62	0.61	0.61	0.61	0.62	0.60	0.62	0.62	0.65
Nr. obs.	493	774	1041	1167	1370	1551	1823	2040	2103

Notes: (1) Only observations where equity dummy equals one are included
(2) All observations are included

Table 4 shows the evolution of key variables throughout the years of our sample. We observe that CEO pay increased continuously after the year 2002 (it had dropped slightly during the 2001 crisis), until 2007. The evolution of equity linked compensation has followed the evolution of direct and total compensation, being in year 2007 when CEO pay reached its highest levels (an average CEO received 1 470 000 US dollars in year 2007), and in year 2002 when it was at its lowest. The evolution of equity linked compensation went parallel to the state of the public debate on executive compensation during the years 1999-2008. The amount of equity linked compensation dropped sharply in year 2000, after the technological bubble of the late 1990s exploded. The enormous increase in stock option compensation of the late 1990s was seen as a key determinant of the speculative era that led to this bubble-burst. We also observe a sharp decline in equity linked compensation after the Enron scandal was disclosed in October 2001. Due to the Enron scandal, option plans where associated with the distortion of management incentives and earning manipulation. Several policy makers and academics started questioning the effectiveness of this type of remuneration. Still, equity linked compensation increased during the expansion period 2002-2007, despite the lively public debate on executive compensation, questioning the current levels and the structure of executive compensation.

From Table 4, we also observe that the proportion of observations where equity linked compensation is strictly positive has declined throughout the years of our sample. However, those firms that do grant equity linked compensation pay a higher stake of CEO compensation in this form and the proportion of equity on annual CEO compensation, “Equity ratio”, has increased constantly since the year 2002.

On the other hand, the proportion of outsiders on this particular sample of European boards has remained fairly stable until year 2007, even though the proportion of firms that have adopted a board with a majority of outside directors has increased from the year 2005. This increase already started in the period of 2003-2004, when most European countries changed their Governance Recommendations, strengthening their independence standards. We observe a tendency towards smaller boards.

In Table 5, we present descriptive statistics, when we split the sample by board type (outsider dominated board versus insider dominated board), type of industry (firms in the new technology sectors, like Electronics, Information Technology and Software, versus firms in traditional sectors) and geographic area (UK versus Continental Europe). By comparing the means of key variables for firms with different board types and pay schemes, we obtain a first approximate insight into which assumptions of the previous described models are supported by the European data. Differences in institutional constrains might be observed when we split the sample by country, and differences in firm complexity, growth opportunities and market conditions can be observed when we split the sample by industry.

TABLE 5. DESCRIPTIVE STATISTICS BY SUBSAMPLES

In this table, we present descriptive statistics of key variables for different subsamples when we split the sample by key control variables. We present means and standard deviations for key variables in firms with different board composition (Panel 5A), in different industries (Panel 5B), and firms in the UK versus Continental Europe (Panel 5C). In panel 5A, we show the mean and standard deviations of key variables for firms with a majority of inside directors (ODB=0) on the board, versus firms with a majority of outsiders (ODB=1). In panel 5B, we show descriptive statistics for firms in the sectors of "Electronic and Electrical Equipment", "Information Technology and Hardware", and "Software and Computer Services" (Newtech=1), versus those firms in the rest of the sectors (New tech=0). Finally, in panel 5C we show the different statistics when we split the sample by country of incorporation (the UK versus Continental Europe).

Panel 5A. Outsider/insider dominated board				
	ODB=0 N=4686		**ODB=1 N=7676**	
Variable	Mean	St. Dev.	Mean	St. Dev.
Direct Compensation	432.07	(504.71)	833.72	(1017.58)
Equity	284.16	(897.25)	716.23	(1744.28)
Total Compensation	716.22	(716.22)	1549.95	(2441.62)
Bonus Ratio	0.157	(0.1967)	0.29	(0.22)
Equity Ratio	0.185	(0.282)	0.201	(0.283)
Equity Dummy	0.423	(0.494)	0.426	(0.494)
Outsiders	0.412	(0.096)	0.714	(0.119)
Board Size	6.77	(2.4)	10.23	(4.66)
Interlocking	1.27	(0.701)	1.73	(1.41)
Time in Role	4.87	(5.589)	4.378	(4.581)
Ownership	35.08	(23.33)	33.86	(25.21)
Assets	1570.9	(14768)	17181	(59105)
Leverage	0.166	(0.179)	0.232	(0.186)
Q	2.17	(1.89)	1.89	(1.44)
Panel 5B. New Tech Sector/Other industries				
	NEWTECH=0 N=10 375		**NEWTECH=1 N=1 987**	
Variable	Mean	St. Dev.	Mean	St. Dev.
Direct Compensation	726.6	(925)	445.79	(549.44)
Equity	594.8	(1549.2)	331.33	(1155.33)
Total Compensation	1321.4	(2182.82)	777.12	(1430.4)
Bonus Ratio	0.239	(0.224)	0.19	(0.206)
Equity Ratio	0.202	(0.284)	0.16	(0.275)
Equity Dummy	0.439	(0.497)	0.353	(0.477)
Outsiders	0.605	(0.1831)	0.571	(0.187)
Board Size	9.18	(4.3)	7.42	(3.54)
Interlocking	1.61	(1.27)	1.31	(0.792)
Time in Role	4.58	(5.02)	4.45	(4.82)
Ownership	34.3	(24.88)	34.55	(22.41)

Assets	13629.7	(52176.1)	1373	(7441)
Leverage	0.22	(0.185)	0.14	(0.176)
Q	1.9	(1.51)	2.5	(2.12)

Panel 5C. UK/Continental Europe

	UK=0 N=4611		**UK=1 N=7751**	
Variable	Mean	St. Dev.	Mean	St. Dev.
Direct Compensation	705.23	(1017.31)	667.3342	(789.86)
Equity	412.77	(1421.58)	635.54	(1532.72)
Total Compensation	1117.996	(2070.966)	1302.875	(2098)
Bonus Ratio	0.396	(0.19)	0.19	(0.21)
Equity Ratio	0.1058	(0.238)	0.2483	(0.294)
Equity Dummy	0.216	(0.411)	0.549	(0.497)
Outsiders	0.7369	(0.162)	0.5186	0.1438)
Board Size	11.579	(5.058)	7.31	(2.72)
Interlocking	1.9366	(1.56)	1.339	(0.876)
Time in Role	5	(5.71)	4.3	(4.73)
Ownership	41.42	(25.33)	30.60	(23.19)
Assets	20171.2	(60171)	10078.76	(91449.85)
Leverage	0.251	(0.176)	0.187	(0.23)
Q	1.84	(1.4)	2.09	(1.75)

We observe boards with a majority of outside directors in 62% of the observations. From Table 5 (panel 5A) we see that firms with outsider dominated boards (ODB=1) are on average more leveraged and are also bigger firms (in terms of total assets). We also observe that CEOs working for firms with outsider dominated boards earn higher compensation and receive more incentive pay. On the other hand, boards dominated by insiders (ODB=0) are prevalent in firms with more concentrated ownership. We also observe that firms in New Technology sector are smaller, less leveraged and with larger Q values. The CEOs working for those firms receive lower compensation and

incentive pay, are less connected and hold less tenure within the firm. Boards in in the New Technology sector are smaller and less independent. Finally, we observe from Table 5, that CEOs working for firms with insider dominated boards hold, on average, longer tenure and have more wealth attached to the company. The use of equity linked compensation is more widespread in the UK that in Continental Europe (Table 5, Panel 5C). We observe an equity linked pay component in 55% of the observations corresponding to the UK firms, and in 21.6% of observations corresponding to firms incorporated in Continental Europe. From Table 5 we observe that a CEO working for a firm incorporated in the UK receives, on average, a higher proportion of his pay package in the form of equity linked compensation (24.8% against an average of 10.5% in the case of Continental Europe firms). On average, the UK firms have smaller and less independent boards. Calculations using the information on whether a firm has granted at least once equity linked compensation to their CEOS show that 81.9% of the firms incorporated in the UK have paid equity linked compensation to their CEOs at least once, while only 45.78% of Continental Europe firms have done it. We exploit the differences presented in Table 5 in more detail in the robustness checks, where we test whether the relations between board independence and equity pay differ significantly in scenarios where the use of equity linked compensation is widespread (such as in the UK) or selective (such as in Continental Europe).

5. REGRESSION RESULTS

When studying the relation between board independence and incentive pay, we focus on three aspects of incentive pay: the existence, the level of incentive pay and the intensity of incentive pay. The existence refers to

whether or not firms use equity linked compensation; the level refers to the total amount of equity linked compensation granted; and the intensity refers to the proportion of equity linked compensation in total pay. These three aspects are measured by (1) a dummy variable which takes the value of one if the CEO receives any kind of equity linked compensation in a particular year (EQUITY DUMMY) (2) the total amount of equity linked compensation in executive pay (LOG EQUITY) and (3) the ratio of equity linked compensation to total CEO pay (EQUITY RATIO).

Table 6 presents the results of an analysis of the relation between the level and intensity of incentive pay and board composition, in a Heckman selection regression model. The Heckman selection model accounts for the fact that not every CEO is selected into equity linked compensation schemes, a feature that is common in Continental Europe, as we observe from Table 5.

To analyze the relation between board composition and the level and intensity of incentive pay, we include in the outcome regressions the total amount of equity linked compensation in logs (LOG EQUITY) and the ratio of equity link compensation to total pay (EQUITY RATIO) as dependent variables respectively, and the proportion of outsiders on the board (OUTSIDERS) as key explanatory variable. On the other hand, the relation between board composition and the existence of equity linked compensation is analyzed in the selection equations, which are presented in the lower part of every column in Table 6. In the selection equations the dependent variable is a dummy for equity compensation in all cases (EQUITY DUMMY).

Each column presents different specifications of the outcome and selection equations, when we change explanatory and control variables. By alternating the explanatory variables, we aim to get a deeper insight on the

determinants of firms choice of pay structure, and whether firms and governance characteristics have a say on how firms choose whether to pay equity incentives, or not. In columns (1) and (2) we present a model where the dependent variable in the selection equation is the proportion of outsiders (OUTSIDERS) alone (along with country, year and industry dummies). This way, we present a raw measure of the relation between board composition and whether or not firms grant equity linked compensation. In columns (3) and (4) we enrich the specification of the selection equation including, together with outsider rate, variables that have an impact on the monitoring and advising necessities of firm. In columns (5) and (6), we exclude the outside rate for the selection equation, leaving as key explanatory variables the proxies for firm monitoring and advising needs and other governance variables. We do so to study the direct relation between the need of board monitoring and advising of the management and the grant of equity linked compensation.

TABLE 6. HECKMAN REGRESSION MODEL WITH SAMPLE SELECTION

Joint estimation of equations (1) and (2). Panel 6A presents results of the outcome equation (equation 1) and Panel 6.B. presents results for the selection equation (equation 2). Different columns present different model specifications. The different columns differ by the dependent variable (equity ratio and total amount equity compensation in logs) in the outcome equation, and by the different specification of the selection equation. In columns (1) and (2) we present a model where the independent variable in the selection equation is the outsider rate alone with year, industry and country dummies. In columns (3) and (4) we enrich the specification of the selection equation including, together with outsider rate, variables that have an impact on the monitoring and advising necessities of the firm. In columns (5) and (6), we exclude the variable outsiders from the selection equation, leaving as key explanatory variables the proxies for firm monitoring and advising needs. P-values in parenthesis. Stars refer to *p<0.05; **p<0.01; ***p<0.001

Panel 6.A Outcome Equation

	RAW SELECTION		**SELECTION WITH CONTROLS**		**MONITORING AND ADVISING INTENSITY**	
DEP.VAR.	**(1) EQUITY RATIO**	**(2) LOG EQUITY**	**(3) EQUITY RATIO**	**(4) LOG EQUITY**	**(5) EQUITY RATIO**	**(6) LOG EQUITY**
Outsiders	**0.24*** (0.000)**	**1.39*** (0.000)**	**0.194*** (0.000)**	**1.539*** (0.000)**	**0.182*** (0.000)**	**1.619*** (0.000)**
Age	-0.002***	-0.009***	-0.002***	-0.008**	-0.002***	-0.008**

	(0.000)	(0.005)	(0.001)	(0.008)	(0.001)	(0.007)
CEO wealth	0.041***	0.345***	0.044***	0.32***	0.043***	0.326***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CEO ownership	-0.026	-3.48***	-0.107	-3.04***	-0.104	-3.001***
	(0.780)	(0.000)	(0.260)	(0.000)	(0.275)	(0.000)
Time in role	-0.007***	-0.017***	-0.007***	-0.02***	-0.007***	-0.016***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
LNASSETS	0.001	0.237***	0.006**	0.217***	0.006**	0.213***
	(0.488)	(0.000)	(0.008)	(0.000)	(0.005)	(0.000)
Price volatility	0.001***	0.008***	0.001***	0.008***	0.002***	0.009***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.011	1.48***	-0.013	1.80***	-0.007	1.813***
	(0.782)	(0.000)	(0.741)	(0.000)	(0.855)	(0.000)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Panel 6.B. Selection Equation						
DEP.VAR.	**EQUITY DUMMY**		**EQUITY DUMMY**		**EQUITY DUMMY**	
Outsiders	1.93***	1.93***	0.611***	0.611***		
	(0.000)	(0.000)	(0.000)	(0.000)		
Ln Assets			0.287***	0.287***	0.300***	0.300***
			(0.000)	(0.000)	(0.000)	(0.000)
Time in Role			-0.002	-0.002	-0.004	-0.004
			(0.423)	(0.423)	(0.137)	(0.137)
Ownership			-0.012***	-0.012	-0.012***	-0.012***
			(0.000)	(0.000)	(0.000)	(0.000)
Board Size			0.009	0.010	0.011*	0.011*
			(0.102)	(0.102)	(0.054)	(0.054)
Leverage			-0.28**	-0.285**	-0.269**	-0.269**
			(0.002)	(0.002)	(0.004)	(0.004)
Interlocking			0.028**	0.028**	0.031**	0.0318**
			(0.029)	(0.029)	(0.014)	(0.014)
MD			-0.31**	-0.31**	-0.338**	-0.338**
			(0.007)	(0.007)	(0.003)	(0.003)
Q			0.038***	0.039***	0.041***	0.041***
			(0.000)	(0.000)	(0.000)	(0.000)
Constant			-1.86***	-1.86***	-1.6***	-1.619***
			(0.000)	(0.000)	(0.000)	(0.000)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Nr. Observations	11058	11058	10427	10427	10427	10427
Censored Obs.	7105	7105	6552	6552	6552	6552
Uncensored Obs.	3953	3953	3875	3875	3875	3875
Wald Chi2	592.76	2922.37	579.64	1874.5	579.22	1901
rho	0.21979	0.0003	0.2295	-0.179	0.2231	-0.199
sigma	0.2282	1.226	0.2271	1.241	0.2271	1.2435
lambda	0.050	0.0004	0.0513	-0.222	0.0501	-0.2479

Overall in the regressions, we observe a positive and significant relation between the level and intensity of pay incentives and board independence in European firms. Regression results indicate that those firms that grant equity linked compensation use incentive pay and board independence as complementary governance mechanisms. The positive and significant coefficients of the explanatory variable OUTSIDERS in the selection equation indicate that firms with a higher proportion of outsiders on their boards are more prone to using equity linked compensation. The positive and significant coefficients of the variable OUTSIDER in the outcome equations support the hypothesis that, once they have chosen to pay equity linked compensation, firms with a higher proportion of outsiders on their boards provide higher pay incentives to their CEO.

From Table 6, columns 3 and 4, we observe that for an average CEO receiving equity linked compensation, a 1% increase in the proportion of outsiders in the board, implies an increase of 0.194% in the proportion of CEO income that takes the form of equity linked compensation, and a 1.539% rise in the total amount of CEO equity linked pay. We include additional assumptions of agency models regarding risk, effort and noise in the output measurements. Looking at the outcome equations, we see that the CEO degree of risk aversion is significantly related to the amount and proportion of CEO income that is linked to equity. We use AGE and CEO WEALTH as proxies for the degree of risk aversion, as younger and wealthier individuals are arguably less risk averse. Younger individuals (AGE) and richer CEOs (CEO WEALTH), receive more incentive pay (both in absolute and relative terms). We also find that equity linked compensation is positively related to firm size (LNASSETS), and negatively related to CEO time in role. This negative relation between CEO seniority (TIME IN ROLE) and incentives is in line with Bebchuk, Fried and

Walker hypothesis, as they state that CEOs are more powerful as they gain seniority within the firm, and they can use their power to set higher pay and lower incentives. However, it might also be explained by the fact that the owners get a better knowledge of CEO abilities and effort provision as the CEO gains seniority within the firm, diminishing asymmetric information and making incentives less necessary. Finally, we find that the proportion and level of equity linked pay is positively related to price volatility, a feature that is consistent with several previous empirical studies on executive compensation[45], even when agency models would predict a negative relation.

An additional evidence of a positive relation between board composition and incentives appears in the selection equations. In every selection equation we observe a positive and significant relation between the proportion of outsiders on the board and the probability of equity linked compensation in CEO annual pay. This relation is positive and significant in all model specifications, although it is of less magnitude when we include controls for firm characteristics and board monitoring and advising intensities (columns 3 and 4).

This positive relation is related to the proposals found in Bebchuk, Fried and Walker (2002). To rule out agency considerations, we check whether our additional assumptions about the role of the board members also hold. Both the Bebchuk et al. (2002) and the agency models derived from Holmstrom and Milgrom (1991) assume that the role of boards is to monitor the CEO. We expand the model to include the advisory role of board members, assuming

[45] See Prendergast (2002) for a literature review on the positive and pervasive empirical relation between risk and incentives. Prendergast provides a plausible explanation on this positive relation: in risky environments, owners choose managers that have private information about markets, institutions or the firm. Owners have to provide greater incentives so that managers do not exploit this asymmetric information to extract rent. Thus, in risky environments, equity incentives become more expensive, but firms also face greater agency problems, that make them choose steeper pay profiles

that both the monitoring and advisory needs of boards jointly determine board composition. The inclusion of such controls moderates the coefficient of outsiders showing the direct impact of board composition on the existence of equity linked compensation from 1.93 to 0.611 (columns 1 to 4).

In Table 6, columns (5) and (6), we test directly the effect of the monitoring and advising needs on the existence of incentive pay. We approximate such necessities through different variables proposed in the board literature. As proxies for the board monitoring intensity we include firm size (LNASSETS), ownership, and leverage. We observe a positive and significant relation between firm size and incentives, shown both in the outcome and in the selection equation, and a negative relation between ownership concentration (and leverage) and equity dummy which is coherent with the substitutive character of both monitoring mechanisms: concentrated ownership provides natural monitoring to managers, while more leveraged firms are equally overseen by bond and equity holders.

We conclude that there is a positive relation between firms monitoring needs and the grant and equity linked compensation, as a basic agency model would suggest. However, if monitoring is also carried out by the board (to a greater or lesser extent) this positive relation should be substituted by a diligent monitoring board. If the board is carrying out its monitoring function, the need to design an inefficient (and thus more costly to shareholders) contract, disappears. Therefore, in a setting where the direct monitoring is carried out by the board, we should observe a nonexistent (or negative) relation between CEO incentives and monitoring needs. When we observe a positive relation (as it is the case here) it might imply that firms use both disciplinary instruments as complementary.

As proxy for advising intensity we include growth opportunities (Q) and industry dummies (that proxy for product, firm and market complexity). We find a positive and significant relation between growth opportunities and incentives, which means that CEOs working for firms with higher growth opportunities (higher Q) have higher chances of receiving equity linked compensation.

Finally, we include CEO time in role (TIME IN ROLE), additional number of board positions (INTERLOCKING), board size (BOARD SIZE), and a dummy for a joint CEO position (MD) to control for the CEO capacity to exert power over the board. Evidence suggests that more powerful CEOs receive fewer incentives in their compensation packages: the probability that the CEO receives equity linked compensation decreases with every additional year of duty, and with the number of executives in top managerial positions (MD). By contrast, it increases with the number of additional board positions (INTERLOCKING). Board size is not significantly related to the use of equity linked compensation.

Overall, in the regressions presented in Table 6 we find that CEOs working for firms with more independent boards have a higher propensity to receive equity linked compensation. Besides, those CEOs who are into equity linked compensation packages receive a higher proportion of their pay in this form, when they work for firms with more independent boards. This positive relation holds when we control for industry, firm size, volatility, growth opportunities, leverage, ownership structure, characteristics of board, governance and institutional differences, and a CEO's degrees of risk aversion and managerial involvement, respectively.

This positive relation is in line with the proposal suggested by Bebchuk, Fried and Walker (2002), that board independence can prevent powerful CEOs to use their influence to design their preferred compensation package. As CEOs are risk averse individuals, they prefer, ceteris paribus, less risky compensation, and we should observe less incentive compensation in firms with entrenched boards, and more incentive compensation in firms where the board is not entrenched, as it is the case of firms with (truly) independent boards.

To rule out agency considerations, we include two additional tests, presented in section 6. In our first test, we explore whether the complementarity between outsiders on the board and incentive pay differs in firms with greater agency problems, or in firms with different advisory needs. Our second test is a wider test of entrenchment theories. We want to analyze whether CEOs working for firms with more independent boards receive significantly different compensation levels, and other compensation incentives (like bonus pay). According to Bebchuck, Fried and Walker (2002), one should observe that CEOs working for firms with more outsiders on their boards receive- along with more equity linked compensation- more incentives in the form of bonuses, and lower levels of direct and total compensation.

6. ROBUSTNESS TEST

Sensitivity analyses are presented in Tables 7 and 8. In Table 7, we analyze whether the relation between board composition and incentive pay differs in firms with different institutional settings, different governance problems, and different performance.

TABLE 7. SENSITIVITY ANALYSIS. COMPLEMENTARITIES BY SUBSAMPLES

In this table, we present the coefficient of the variable outsider rate in a Heckman regression, where the data has been split into excluding subsamples by different firm characteristics (Region, Industry, Board size, Ownership concentration and firm results). The underlying regression is similar to that presented in Table 6, Column 3. In this table, we present only the values of the coefficients of the variable outsider ratio, for both the selection and the outcome equation. In all cases the dependent variable is the proportion of equity linked compensation to total pay in the main equation, and a dummy for the existence of equity linked compensation in the selection equation. We present results for firms incorporated in the UK versus those in Continental Europe and Ireland, for firms in the New Technology sectors versus those in traditional sectors, and for firms below (above) the median values of key variables (ownership concentration, board size, operating profit, return on equity per share, return on assets per share). Stars refer to *p<0.05; **p<0.01; ***p<0.001

	Equity Ratio	Equity Dummy	Nr. Obs.	Cens Obs.	Uncens. Obs.	Wald Chi2	Rho	Sigma	Lambda
Panel 7.A Region									
UK	**0.124*** **	**0.702*** **	6525	3414	3111	6677.43	0.389	0.219	0.085
C. Europe	**1.06** **	**0.773*** **	3902	3138	764	203.44	-0.425	1.387	-0.590
Panel 7.B Industry									
High Tech.	**0.125*** **	**0.906*** **	1662	1190	472	88.76	0.199	1.325	0.264
Rest	**0.206*** **	**0.534*** **	8765	5362	3403	524.1	0.208	0.221	0.046
Panel 7.C Board Size									
Small (<=8)	**1.4*** **	**0.836*** **	5758	3903	1855	598.96	-0.013	1.25	-0.016
Large (>8)	**0.276*** **	**0.301*** **	4669	2649	2020	432.04	0.074	0.202	0.015
Panel 7.D Ownership									
High (>31.5)	**0.34*** **	**0.927*** **	5185	4098	1087	150	0.308	0.272	0.0838
Low (<=31.5)	**0.144*** **	**0.234*** **	5242	2454	2788	472	0.155	0.206	0.031
Panel 7. E Operating Profit									
Small (<0.27)	**1.17*** **	**0.673*** **	5015	3499	1516	550.5	0.041	1.351	0.056
Large (>0.27)	**0.265*** **	**0.621** **	5412	3053	2359	480.5	0.024	0.197	0.004
Panel 7.F ROE									
Small(<11.47)	**0.15*** **	**0.81*** **	3990	2297	1693	274	0.35	0.234	0.082
Large(>11.4)	**0.23*** **	**0.366**	6437	4255	2182	332.24	0.11	0.220	0.2589
Panel 7.G ROA									
Small (<4.8)	**0.145** **	**0.661**	4260	2476	1784	258	0.3467	0.2411	0.083
Large (>4.8)	**0.216*** **	**0.405** **	6167	4076	2091	377	0.134	0.214	0.029

In Table 7, we run the Heckman regression models for different groups of firms. First we run the Heckman regression models separately for firms in the UK and for firms in Continental Europe (Panel 7.A). Both in Europe and in the UK, we find a positive and significant relation between outsiders on the board and equity linked compensation, which might indicate that this relation is not driven by institutional differences or country specifications. We also find that the coefficient measuring the relation between board composition and incentive pay is greater for Continental Europe than for UK.

This way, a 1% increase in the proportion of outsiders implies a 1.06% increase in incentive intensity in Continental Europe, and it increases this intensity by 0.124 % in UK. To split the sample by country of incorporation is relevant to rule out the possibility that our result is driven by institutional constraints or by the different governance structure between Continental Europe, and the Anglo-Saxon model represented by the UK. The complementarity found in both subsets of firms reinforces our findings and suggests that this optimal combination of governance mechanisms is not driven by institutional restrictions.

We also split the sample by economic sector. We test whether firms that belong to what has been called “High technology” (those in the information technology, electronics and software industries) have a different corporate governance pattern than their more traditional counterparts. We confront those two groups, as new technology firms are younger and smaller firms, they operate in markets with higher growth opportunities, and in less transparent settings, where issues like within firm information transmission, growth opportunities and risk management are relevant. By contrast, those in more traditional sectors are usually firms with a longer tradition, well established corporate governance culture; they are larger firms and operate in more mature markets (see Table 5.B for descriptive statistics for both groups of firms). Running the regressions for both groups of firms separately, we find that the complementary use of outsiders on the board, and equity linked compensation is less pronounced in the new technology firms. We find that, even when the probability of receiving equity linked compensation is greater in the technological sector, for observationally equal firms, an increase in board independence is associated with a lower increase in equity linked compensation in those firms. We also have assumed in the previous section

that the agency problem between CEOs and firm owners is constant along the firm spectrum. We relax this hypothesis, and test whether the complementarity is greater in firms with greater agency problems (firms where the CEO has more chances to extract private rents). To do so we split the sample by board size (Panel 7.C) and ownership concentration (Panel 7.D). We find that the positive relation between incidence of incentives and outsider rate is greater in firms with more concentrated ownership, and in firms with smaller boards (those subgroups of firms should be in less need of board monitoring).

Finally, we find a greater complementarity between outsiders on the board and incentives in more profitable firms, that is to say, in firms with above median operating profit (Panel 7.E), return on equity (Panel 7.F), and return on assets (Panel 7.G). This result does not contradict the hypothesis that better governance (leading to better results) is related to the complementary use of alternative instruments of corporate governance available to corporations.

In Table 8 we check the prediction of the entrenchment models which states that CEOs in firms with less independent boards receive more pay, and fewer incentives. We run a simultaneous equation model with board composition and CEO pay as dependent variables. As explanatory variables we include firm, board and governance characteristics. We use simultaneous equation models, instead of Heckman regression models, because all CEOs receive some kind of direct and total compensation, and thus there is no selection into compensation, and no benefit of a Heckman selection model. We run the following system of simultaneous regressions:

$$CEOPAY_{it}=\beta_0+\beta_1 OUTSIDERS_{it}+\beta_2 AGE_{it}+\beta_3 CEOWEALTH_{it}+\beta_4 CEOOWNERSHIP_{it}+ \beta_5 TIMEINROLE_{it}+ \beta_6 LNASSET_{it}+ \beta_7 PRICEVOLATILITY_{it}+ \beta_{8\text{-}16} YEAR_{it}+ \varepsilon_{it} \quad (3)$$

$$OUTSIDERS_{it}=\gamma_0+\gamma_1 LNASSETS_{it}+\gamma_2 TIMEINROLE_{it}+\gamma_3 CEOOWNERSHIP_{it}+ \gamma_4 BOARDSIZE_{it}+\gamma_5 LEVERAGE_{it}+\gamma_6 INTERLOCKING_{it}+ \gamma_7 MD_{it}+ \gamma_8 Q_{it}+ \gamma_{9\text{-}16} YEAR_{it} +\gamma_{17\text{-}31} COUNTRY_{it} +\gamma_{32\text{-}72} INDUSTRY_{it}+\nu_{it} \quad (4)$$

To measure CEO pay we use alternatively CEO total compensation (LNTOTAL), direct compensation (LNDIRECT) and BONUS RATIO (measured as the proportion of bonus in direct compensation). We include equity ratio as well, to allow comparisons with our previous Heckman regression models. When we include equity ratio as dependent variable, only the observations where positive equity linked compensation has been used are included. We explain CEO pay by board, firm and CEO characteristics previously included in our models.

In our simultaneous equation regressions, the proportion of outsiders in the board (OUTSIDERS) is explained by proxies for the need to monitor and advice the management team. As proxies for monitoring need we include LNASSETS, TIME IN ROLE, OWNERSHIP, BOARDSIZE, LEVERAGE; as proxies for advice requirements we include INTERLOCKING, Q, and industry dummies. Year and country dummies are included to control for market and institutional constraints. Results for this simultaneous equation model are presented in Table 8.

TABLE 8. SIMULTANEOUS DETERMINATION OF BOARD COMPOSITION AND COMPENSATION

In the equation explaining CEO pay, the dependent variable is (1) total pay (2) total amount of equity linked compensation, (3) direct pay, (4) bonus ratio and (6) proportion of equity linked compensation on total pay. The dependent variable in the board equation is outsiders in all cases. In the equation explaining CEO pay,

the dependent variable is (1) total pay (2) total amount of equity linked compensation, (3) direct pay, (4) bonus ratio and (6) proportion of equity linked compensation on total pay. The dependent variable in the board equation is outsiders in all cases. In column (1) only those observations where we observe positive equity linked compensation are included, in column (3) only those observations with positive bonus ratio are included. P-values in parenthesis. Stars refer to *p<0.05; **p<0.01; ***p<0.001

Dep Var	**Equity Ratio**	**LN DIRECT**	**bonus ratio**	**LN TOTAL**
Outsiders	**0.522*** **	**-0.608*** **	**-0.057***	**-1.15*** **
	(0.000)	**(0.000)**	**(0.025)**	**(0.000)**
Age	-0.002***	-0.001	-0.001*	**-0.005*** **
	(0.000)	(0.219)	(0.001)	**(0.000)**
CEO Ownership	-0.041	-1051***	-0.074*	-2.562***
	(0.659)	(0.000)	(0.096)	(0.000)
CEO Wealth	0.041***	-0.071***	-0.002*	0.127***
	(0.000)	(0.000)	(0.032)	(0.000)
Time in Role	-0.007***	0.012***	-0.001	-0.003*
	(0.000)	(0.000)	(0.045)	(0.068)
Ln Assets	-0.007**	0.259***	0.032***	0.311***
	(0.003)	(0.000)	(0.00)	(0.000)
Price Volatility	0.001***	0.002	0.001***	0.005
	(0.000)	(0.001)	(0.000)	(5.75)
Year dummies	Yes	Yes	Yes	Yes
Constant	(omitted)	4.4***	0.078**	4.5
		(0.000)	(0.004)	(0.000)
Outsiders				
Ln Assets	0.03***	0.021***	0.024***	0.020***
	(0.000)	(0.000)	(0.000)	(0.000)
Time in Role	-0.002***	-0.003***	-0.003***	-0.003***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	0.001***	0.000***	0.000**	0.0000***
	(0.000)	(0.000)	(0.005)	(0.000)
Board Size	-0.004***	-0.001**	-0.000	-0.002***
	(0.000)	(0.002)	(0.433)	(0.001)
Leverage	0.014	-0.044***	-0.036***	-0.045***
	(0.221)	(0.000)	(0.001)	(0.000)
NOB	0.005***	0.007***	0.004**	0.006***
	(0.000)	(0.000)	(0.005)	(0.000)
MD	-0.017	-0.043***	-0.082***	-0.037**
	(0.308)	(0.001)	(0.000)	(0.002)
Market Q	0.008***	0.003**	-0.008***	0.001
	(0.000)	(0.003)	(0.000)	(0.273)
Year	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Constant	(omitted)	(omitted)	(omitted)	(omitted)
Nr. of Obs.	3875	6645	4587	6778
R-sq (Eq. 1)	0.1011	0.4798	0.1857	0.4928
R-sq (Eq.2)	0.4773	0.5262	0.5669	0.5243

Regression results in Table 8 does not provide support of the entrenchment hypothesis. A CEO working for a firm with a more independent board receives lower direct and total compensation. When the proportion of outsiders on the board increases, the equity proportion of total pay increases, while the compensation in terms of bonuses decreases. In all, we find that outsider dominated boards use more intensively equity linked compensation and, as Bebchuk, Fried and Walker suggest, pay lower salaries to their management team.

7. CONCLUSIONS

In this chapter, we use a representative sample of listed firms for the main Western European Economies to explore the relation between board independence and CEO incentive pay as alternative instruments of corporate governance.

Analyzing this relation can provide a better understanding on how different corporate governance instruments interact with each other, and how firms, by adequately combining the different corporate governance instruments at their dispose can reach more efficient governance, and thus improve firm value. By far, this is the first paper, to our knowledge, to test this interaction using a representative sample of European countries.

Our paper departs from existing empirical literature in three different ways. First, it provides European evidence of a question which is predominantly analyzed using US data. A second contribution is the study of the existence and the amount of equity linked incentives separately. By doing so, we address one of the key features of executive compensation in Europe: the use of equity linked compensation is not as widespread and systematic as it

is in the US. Unlike in the US, not every firm uses equity linked compensation in Europe, and those who do it, do not grant it every year. Finally we add the advisory role of boards to its functions. The advisory role of board members is a key feature to explain board composition and thus, the structure of CEO compensation. In this setting, the relation between management pay and board design is not only determined by agency considerations. The use of one or another governance mechanism will depend on the relative importance of board functions and on the CEO preferences over its pay.

Our analysis suggests that European firms use board composition and incentive pay schemes as complementary governance instruments. We find evidence of a positive and significant relation between the amounts of equity linked compensation granted to European CEOs and board independence, taking into account the different roles of the board (monitoring and advising) together with the CEOs degree of risk aversion and managerial abilities. This positive relation holds when we control for industry, firm size, volatility, other governance mechanisms (leverage and ownership structure), growth opportunities, return on equity and governance and institutional differences.

Evidence found in our European data suggests- as Bebchuk and Fried alerted- that equity linked incentives are just a partial remedy to avoid rent extracting- and that firms combining incentives pay and board composition are able to handle better their governance problems. Our results show the complementary relation between board independence and the intensity of CEO incentive pay is larger in more profitable firms. In terms of policy implications, our analysis supports a corporate governance European policy that encourages jointly the use and transparency in the incentives pay systems and the existence of strong boards.

CONCLUSIONES

El trabajo que se presenta para la colación del grado de doctor ha tenido como eje central el análisis de la composición del consejo de administración, como generador de eficiencia y beneficio empresarial. Nuestro interés en la relación entre la composición del consejo y el valor empresarial surgió de la constatación de una tendencia generalizada a reforzar la independencia de los consejos de administración en aras de una mejor supervisión y control, incluso cuando no existe suficiente evidencia empírica de que dicha independencia sea generadora de valor.

Para entender esta relación hemos analizado dos aspectos específicos que pensamos impactan significativamente en el funcionamiento del consejo a la hora de adoptar decisiones y, en última instancia, en la generación de valor. Estos dos elementos diferenciales son el empleo de comités, para una mejor transferencia de información entre consejeros internos y externos por una parte, y el uso de incentivos en la remuneración del consejero delegado, para facilitar la alineación de intereses, por otra. Estos dos análisis, que ocupan los capítulos dos y tres, han venido precedidos por un primer capítulo que presenta el estado de la cuestión del gobierno corporativo en Europa.

Para realizar esta tesis hemos compilado una base de datos representativa de las principales economías de Europa occidental que recoge información detallada de gobierno corporativo, información económico-financiera y de mercado de 2 668 empresas de 15 países de la Unión Europea durante el periodo 1999-2009. De esta forma, además de contribuir al análisis del funcionamiento de los consejos de administración y la remuneración a miembros del equipo directivo, una aportación relevante de nuestra tesis es el uso de datos europeos. En general, los estudios empíricos acerca de elementos de gobierno corporativo, como los consejos de administración y el pago a

ejecutivos, se han concentrado en el sector corporativo americano debido a una mayor transparencia en los datos sobre gobierno corporativo en EE.UU., y una mayor tradición investigadora en este campo. Los estudios existentes usando datos europeos son escasos y, por norma general, suelen estar centrados en un único país. En nuestro estudio, las principales economías de Europa Occidental están representadas. Al abarcar varios países, obtuvimos conclusiones que no están condicionadas por factores institucionales o de mercado que afecten a un país en concreto, ya que evitamos la homogeneidad que surge de la similitud en los sistemas de gobierno corporativo entre empresas de un mismo país. El análisis de datos europeos es también importante en la actualidad, puesto que en la última década hemos sido testigos de la mayor actualización y homogeneización de los códigos de buen gobierno de los países de Europa occidental que se haya dado jamás. Usar una muestra representativa de los países europeos en nuestro análisis permitió conocer mejor el sistema corporativo europeo, y estudiar cómo se han adaptado las empresas a los importantes cambios institucionales, económicos y empresariales de los últimos diez años, y si estos cambios han propiciado la mejora de los sistemas de gobierno corporativo para los que fueron diseñados.

En nuestro estudio hemos explorado una característica muy especial de los datos europeos, como es la gran variedad de estructuras de consejos de administración, debida a la coexistencia en un mismo espacio económico de marcos institucionales tan diversos como el anglosajón, el germánico, el escandinavo, o el francés. Esta gran variedad -junto a la flexibilidad en la aplicación de los códigos- permite a las empresas una gran capacidad de elección en el diseño de su estructura de gobierno corporativo. Explotamos esta libertad de elección de las empresas en dos ámbitos: la autoselección en el diseño de la estructura interna del consejo de

administración en comités por una parte, y la autoselección del diseño de la remuneración al consejero delegado por otra. La metodología utilizada- el modelo de Heckman- permite, además de estudiar las relaciones de interés entre la independencia del consejo y el uso de comités o la remuneración con incentivos, analizar cuáles son los determinantes que inciden en que una empresa decida emplear una forma de gobierno corporativo sobre otra (que utilice de forma intensiva comités o que utilice remuneración ligada a acciones para incentivar al consejero delegado).

La primera de nuestras preguntas de investigación ha sido respondida en el capítulo 2 al estudiar la relación entre independencia del consejo y valor empresarial, a través de la estructura interna de consejo y su trabajo en comités. En nuestro modelo de consejo, la eficiencia está relacionada con una correcta transmisión de información entre miembros del equipo directivo y consejeros externos. Para analizar si la transmisión de información llevada a cabo a través de estructuras de comités mejora la eficiencia de consejos independientes, hemos planteado dos hipótesis contrastables: (1) que el uso de comités conlleva incrementos de valor empresarial y (2) que la mejora de gobierno corporativo que supone la introducción de comités depende de los requerimientos de asesoría y supervisión por parte de las empresas. Así, el uso (y la independencia) de comités asesores es más beneficiosa en entornos empresariales complejos, y en empresas con mayores expectativas de crecimiento, mientras que el uso de comités supervisores es más beneficioso en entornos con mayores problemas de agencia (empresas más grandes, o empresas donde el consejero delegado acumula mayor poder de decisión).

La comparación de los resultados del modelo base con los del modelo aumentado en el que se incorpora la información relativa a diversos

aspectos de la creación de comités, nos permitió obtener una doble evidencia. En primer lugar, la relación positiva y significativa entre el número y el nivel de independencia de los comités y el valor de la empresa. Una vez ampliado el análisis a los diferentes tipos de comité pudimos comprobar que son los de tipo asesor sobre los que recae el protagonismo de dicha relación. Además, y usando en todo momento técnicas econométricas que corrigen el sesgo derivado del hecho de que la creación de comités no es aleatoria, nuestros datos mostraron que al introducir información sobre comités de tipo asesor, la relación entre la independencia del consejo y el valor de la empresa se tornaba positiva y significativa. Esta circunstancia no es refrendada ni en el modelo base ni el modelo extendido con información genérica sobre comités o referida a los comités de tipo supervisor; en cualquiera de estos casos se confirma la irrelevancia del nivel de independencia del consejo en línea con un buen número de trabajos sobre gobierno corporativo.

Respecto a la segunda de la nuestras hipótesis, pudimos demostrar que la relación entre el uso de comités asesores y supervisores y el valor de la empresa difiere según el contexto empresarial y productivo en el que la entidad se desenvuelve. Se puso así de manifiesto la relación positiva entre el uso de comités de naturaleza supervisora y el valor de la empresa en el segmento de empresas de mayor dimensión, segmento donde las necesidades de supervisión y control son previsiblemente más perentorias. También pudimos constatar que los comités de tipo asesor sí tienen un impacto positivo en industrias o sectores intensivos en nuevas tecnologías, por otra parte ausente en las empresas pertenecientes al resto de los sectores de la muestra.

Este análisis contribuye al debate actual sobre la idoneidad de consejos de administración independientes como generadores de valor empresarial, así como a la incipiente literatura acerca del uso e independencia

de comités y su contribución a la mejora del gobierno corporativo de la empresa. Una contribución fundamental de este estudio es que, en vez de habernos concentrado en cada elemento (comités y consejo) de forma separada, como hacen estudios anteriores, los hemos introducido en el análisis de forma conjunta, examinando de forma detallada los requerimientos de asesoría y supervisión por parte de la empresa, junto con el uso e independencia de comités de tipo asesor y supervisor.

La respuesta a la segunda de nuestras preguntas ocupó el capítulo tercero, en el que hemos estudiado la determinación conjunta del nivel de independencia del consejo y de la estructura de remuneración al consejero delegado como instrumentos alternativos de gobierno corporativo. Para ello, hemos analizado empíricamente si las empresas europeas utilizan la independencia del consejo de administración y la remuneración incentivada como instrumentos de gobierno corporativo complementarios, como postulan los modelos de atrincheramiento, o sustitutivos, según postulan los modelos de agencia clásicos. De acuerdo a estos últimos los propietarios pueden sustituir la supervisión directa a los *managers* con una remuneración ligada a incentivos, de forma que predicen una relación de sustitución entre consejos de administración independientes (con mayor capacidad de supervisión) y la remuneración incentivada al consejero delegado, en forma de acciones u opciones sobre acciones (Holmstrom y Milgrom, 1991). En el lado opuesto encontramos los modelos de atrincheramiento, propuestos por Bebchuck y Fried (2004), que parten de la suposición de que la remuneración al consejero delegado no es el resultado de una negociación “entre iguales”, entre el consejero y los accionistas, ya que el consejero delegado tiene gran poder de influencia sobre el consejo y los comités de remuneración, y utiliza dicha influencia para conseguir remuneraciones más altas y menos ligadas a

resultados. Aunque otorgar acciones y opciones sobre acciones al consejero delegado puede en parte aliviar esta extracción de rentas privadas, también puede generar problemas (como la toma de excesivos riesgos empresariales, estrategias muy focalizadas en el corto plazo, incremento de la volatilidad de valores de mercado, etc.). Es por ello que los modelos de atrincheramiento proponen que las empresas cotizadas utilicen de forma conjunta la remuneración ligada a incentivos y la independencia del consejo como instrumentos complementarios de gobierno corporativo.

Para obtener una relación lo más detallada posible entre la independencia del consejo de administración y la remuneración incentivada como instrumentos alternativos de gobierno corporativo, hemos analizado de forma diferenciada tres conceptos de remuneración incentivada: la existencia (si las empresas otorgan o no remuneración incentivada), el importe (el valor total de dicha remuneración), y la intensidad (la proporción de incentivos dentro de la remuneración total) de dicha remuneración incentivada. El estudio de estos tres conceptos de forma separada constituye una contribución adicional de esta tesis, puesto que permite comprender mejor cómo ambos instrumentos de gobierno corporativo (consejos de administración independientes y remuneración incentivada) interactúan. Además, estudiar de forma separada la introducción de programas de remuneración incentivada y el importe total o la proporción de los mismos es necesario en el caso europeo, puesto que la remuneración ligada a acciones y opciones sobre acciones no está tan extendida en Europa como en EE.UU.. En Europa no todas las empresas utilizan remuneración ligada a acciones, y aquellas que lo hacen, no la utilizan cada año de forma sistemática. No tener en cuenta este hecho diferencial podría generar un sesgo de selección que nosotros hemos intentado corregir con el uso de un modelo econométrico (el modelo de Heckman), que

permite entender qué factores influyen en la decisión de poner en marcha estos planes por una parte, y qué factores pueden ser decisivos en el volumen total de los mismos.

Nuestro análisis empírico puso de manifiesto que existe una relación de complementariedad entre la independencia del consejo de administración y el pago de incentivos (acciones y opciones sobre acciones) al consejero delegado. Los análisis de sensibilidad realizados mostraron que esta relación de complementariedad no es específica de un país o industria en concreto, y aparece en empresas con estructuras de capital diversas, diferentes tamaños de consejos y diferentes perfiles de ingresos. Esto significa que las principales empresas cotizadas europeas combinan mayores niveles de independencia de sus consejos de administración con una mayor proporción de incentivos en la retribución anual al consejero delegado. También encontramos en nuestros datos una relación positiva entre variables que miden la necesidad de supervisión y la probabilidad de que el consejero delegado reciba acciones u opciones sobre acciones como parte de su remuneración. Además, las empresas con una mayor proporción de consejeros ejecutivos en nuestra muestra pagaron una remuneración menor al consejero delegado (tanto remuneración directa en salario y bonus como remuneración total, incluyendo el importe de la remuneración ligada a acciones y opciones sobre acciones), y una mayor proporción de incentivos. En general, los resultados de nuestro análisis estuvieron más en línea con las propuestas de Bebchuck y Fried, que abogan por la utilización conjunta de consejos independientes y remuneración incentivada para reducir los problemas de agencia entre propietarios y managers, y evitar la extracción de rentas privadas por parte de los miembros del equipo directivo.

La aportación del consejo de administración al valor de la empresa es difícilmente cuantificable, puesto que depende de elementos cualitativos, como el capital humano de los consejeros, la transmisión de información entre consejeros externos y miembros del equipo ejecutivo, la confianza entre los miembros del consejo, y entre éstos y el consejero delegado, etc. Es por ello de gran relevancia, para el diseño de modelos de consejos de administración eficientes, encontrar regularidades empíricas que nos ayuden a entender los mecanismos internos de funcionamiento de dichos consejos, y creemos que, el estudio sobre cómo las empresas combinan la independencia del consejo con otros elementos de gobierno corporativo a su alcance mejora nuestro conocimiento acerca del funcionamiento interno de los consejos, y facilita la cuantificación de su aportación al valor de la empresa.

Los resultados de nuestro estudio tienen también claras aplicaciones normativas. Por una parte hemos mostrado que el uso conjunto de consejos independientes, con elementos diferenciadores, como comités de tipo asesor dentro de los consejos, o remuneración incentivada puede ayudar a mejorar los resultados empresariales. Además, mostramos que el número e independencia de los comités supervisores dentro del consejo no está estadísticamente relacionado con una mejora del resultado empresarial, o con la independencia del consejo. Esto es así aunque las diversas recomendaciones de gobierno corporativo en Europa establecen claramente la necesidad de creación de comités auditores, de remuneración y de nombramientos (todos ellos de carácter supervisor) así como la idoneidad de su independencia. Estas mismas recomendaciones no inciden en el uso de comités asesores, que han sido menos estudiados en la literatura económica, y que constituyen en nuestros datos un rasgo distintivo relacionado con el incremento del valor empresarial.

Para finalizar, es nuestra intención utilizar y mejorar la extensa base de datos que hemos creado para emprender nuevos proyectos de investigación, que permitan avanzar en el conocimiento de los instrumentos de gobierno de las empresas. El estudio de la interrelación entre diferentes instrumentos de gobierno corporativo y el análisis de los comités asesores del consejo como generadores de valor, puede contribuir a entender mejor el rol del consejo de administración como generador de valor empresarial. Dada la importancia de los consejos de administración para el correcto funcionamiento de la empresa, y el avance en la investigación en la ultima década en este campo, nuevos estudios aprovechando la extensión y calidad de las bases de datos servirán para establecer regularidades empíricas que puedan ser utilizadas tanto en la creación de modelos económicos, como en la mejora de las regulaciones y recomendaciones de gobierno corporativo a en Europa.

References

Acharya, V. Pagano, M., and Volpin, P. (2012) Seeking Alpha: Excess risk taking and competition for managerial talent. *CEPR Discussion Paper DP 8905. SSRN 2034123*

Acharya, V. and Volpin, P. (2010) Corporate governance externalities. *Review of Finance, 14 (1)* , 1-33

Adams, R. (2009) Asking directors about their dual roles. *Finance and Corporate Governance Conference 2010, SSRN 1362339*.

Adams, R. (2000) The dual role of corporate boards as advisors and monitors of the management: Theory and evidence. *AFA 2002 Atlanta Meetings, SSRN 241581*

Adams, R. and Mehran, H. (2012) Bank board structure and performance: Evidence for large bank holding companies. *Journal of Financial Intermediation, 21(2)*, 243-267

Adams, R. and Ferreira, D. (2008) One share-one vote: The empirical evidence. *Review of Finance, 12(1)*, 51-91

Adams, R. and Ferreira, D. (2007) A theoy of friendly boards. *The Journal of Finance, 62*(1), 217250

Adams, R.; Hermalin, B. and Weisbach, M. (2010) The role of boards of directors in corporate governance: A conceptual framework and survey. *Journal of Economic Literature, 48*(1), 58-107

Aguilera, R. and Jackson, G. (2010) Comparative and international corporate governance. *The Academy of Management Annals, 4*(1), 485-556.

Andres Alonso, P. and Santamaría Mariscal, M. (2010) Un paseo por el concepto de gobierno corporativo. *Revista de Responsabilidad Social de la Empresa, 2*, 95-114.

Andres Alonso, P. and Vallelado, E. (2008) Corporate governance in banking: the role of the board of directors. *Journal of Banking and Finance, 32*, 2570–2580

Andres Alonso, P. and Rodríguez, J. A. (2011) Corporate boards in high-tech firms. *The Spanish Review of Financial Economics, 9*, 69-79.

Azofra, V. (2005) Acerca de una nota crítica sobre la investigación actual en finanzas. *Cuadernos de Economía y Dirección de la Empresa, 24*, 121-150

Baranchuk, N. (2009) Consensus in diverse corporate boards. *Review of Financial Studies, 22(2)*, 715-747.

Bebchuck, L. A. (2005) Pay without performance: An overview of the issues. *Journal of Applied Corporate Finance, 17*(4), 8-23

Bebchuck, L.A.; Cohen, A. and Spamann, H. (2010) The wages of failure: Executive compensation at Bear Stearns and Lehman 2000-2008. *Yale Journal of Regulation, 27*, 257-282

Bebchuk, L.A. and Fried, J. M. (2004) *The unfulfilled promise of executive compensation.* Cambridge, Massachusets and London: Harvard University Press.

Bebchuk, L.A. and Fried, J.M. (2003) Executive compensation as an agency problem. *Journal of Economic Perspectives, 17(3)*, 71-92

Bebchuk, L. A.; Fried, J. M. and Walker, D. I. (2002) Managerial power and rent extraction in the design of executive compensation. *The University of Chicago Law Review, 69*, 751-846

Becker, B. (2006) Wealth and executive compensation. *The Journal of Finance, 61*(1), 379-397

Bergman, N. (2007) Investor protection and the Coasian view. *Journal of Financial Economics, 84*, 738-771

Bergstresser, D and Philippon, T. (2006) Incentives and earnings management *Journal of Financial Economics, 80(3)*, 511-529

Berle, A. A. and Means, G. C. (1932) *The Modern Corporation and Private Property.* New York: Macmillan.

Bertrand, M. and Mullainathan, S. (2000) Agents with and without principals. *American Economic Review, 90*(2), págs. 203-208.

Bhagat, S. and Black, B. (2002) The non-correlation between board independence and long term firm performance. *Journal of Corporation Law, 27*, 231-273

Bhagat, S. and Bolton, B. (2011) Bank executive compensation and capital requirements reform. *SSSRN 1781318*

Bolton, P. and Scheinkman, J. (2006). Executive compensation and short-termist behaviour in speculative markets. *73(3)*, 577-610

Boone, A.; Field, L.; Karpoff, J. and Raheja, C. (2007) The determinants of board size and composition: An empirical analysis. *Journal of Financial Economics, 85*, 66-101

Brecht , M.; Bolton, P. and Roell , A. (2002). Corporate governance and control. *ECGI Working Paper Series, 343461,* (updated August 2005).

Cheng, S. (2008) Board size and the variability of corporate return. *Journal of Financial Economics, 87*, 157-176

Chesney, M.; Stromberg, J. and Wagner, A. F. (2011) Risk-taking incentives and losses in the financial crisis. *Swiss Finance Institute Research Paper(10-18). SSRN 1595343*

Chhaochharia, V. and Grinstein, Y. (2007) Corporate governance and firm value: The impact of the 2002 governance rules. *The Journal of Finance, 62*(4), 1789-1825

Chung, H. J. (2008) Board independence and CEO incentives. *SSRN 1361149*

Coles, J., Daniel, N. and Naveen, L. (2008) Boards: Does one size fit all? *Journal of Financial Economics, 87*, 329-356

Coles, J., Daniel, N. and Naveen, L. (2006) Managerial incentives and risk taking. *Journal of Financial Economics*, 431-468

Coles, J. and Hoi, C-K. (2003) New evidence on the market for directors: Board membership and Pennsylvania Senate Bill 1310. *The Journal of Finance, 58 (1)*, 197-230

Coles, J.; Lemmon, M. and Wang, Y. (2008) The joint determinants of managerial ownership, board independence and firm performance. *SSRN 1089758*

Conyon, M. J. (2006) Executive compensation and incentives. *The Academy of Management Journal, 20*, 25-41

Conyon, M. J.; Core, J. E. and Guay, W. R. (2011) Are US CEOs paid more than UK CEOs? Inferences from risk adjusted pay. *Review of Financial Studies, 24*(2), 402-438

Conyon, M. J. and He, L. (2004) Compensation committees and CEO compensation incentives in US entrepeneurial firms. *Journal of Management Accounting Research, 16*(1), 35-74

Core, J. E.; Guay, W. R. and Rusticus, T. (2006) Does weak governance cause weak stock returns? An examination of firms operating performance and investors' expectations. *The Journal of Finance, 61*(2), 655-687

Core, J. E.; Holthausen, R. E. and Larcker, D. F. (1999) Corporate governance, chief executive officer compensation, and firm governance. *Journal of Financial Economics, 51*, 371-406.

Correia da Silva, L.; Goergen, M. and Renneboog, L. (2004) *Dividend Policy and Corporate Governance.* Oxford University Press

Damiani, M. and Pompei, F. (2008) Mergers, acquisitions, and technological regimes: The European experience over the period 2002-2005. *SSRN 1117496*

Davila, T. and Peñalva, F. (2006) Corporate governance and the weighting of performance measures in CEO compensation. *Review of Accounting Studies, 11(4)*, 463-493

Davis, G. F. (2005) New directions in corporate governance. *Annual Review of Sociology, 31*, 143-162

DeFusco, R.; Johnson, R. and Zorn, T. (1990) The effects of executive stock option plans on stock holders and bondholders *Journal of Finance, 45(2)*, 617-627

Denis, D. and McConnel, J. (2003) Internal corporate governance. *Journal of Financial and Quantitative Analysis, 38(1)*, 1-36

Denis, D. and Sarin, A. (1999) Ownership and board structure in publicly traded corporations . *Journal of Financial Economics, 52*, 187-223

Denis, D.; Denis, D. and Sarin, A. (1997). Agency problems, equity ownership, and corporate diversification. *Journal of Finance , 52*, 135-160

Doidge, C.; (2004) US cross-listing and the private benefits fo control: Evidence from dual-class firms. *Journal of Financial Economics, 72(3)*, 519-553

Doidge, C.; Karolyi, A. and Stulz, R. (2007) Why do countries matter so much for corporate governance? *Journal of Financial Economics, 86*, 1-39

Drymiotes, G. (2007) The monitoring role of insiders. *Journal of Accounting Economics, 44*, 359-377

Durnev, A., and Kim, H. (2005) To steal or not to steal: Firm attributes, legal environment, and valuation. *Journal of Finance, 60*, 1461-1493

EADS, European Association of Security Dealers (2005) Corporate Governance Principles and Recommendations. Available at http://www.ecgi.org/codes/documents/easd_cg_pr.pdf

Edmans, A. and Gabaix, X. (2009) Is CEO pay really inefficient? A survey of new optimal contracting theories. *European Financial Management, 15 (3)* , 486-496

European Commission (2011) *Green Paper: The EU Corporate Governance Framework*. Available at http://ec.europa.eu/internal_market/company/docs/modern/com2011-164_en.pdf

European Commission (2011) *Report on the Reflection Group on the Future of EU Company Law* Available at http://ec.europa.eu/internal_market/company/docs/modern/reflectiongroup_report_en.pdf

European Commission (2007) *Report on the Application by the Member States of the EU Recommendation on the role of non-executive directors of listed companies and on the committees of the (supervisory) board*. Available at http://ec.europa.eu/internal_market/company/docs/independence/sec20071022_en.pdf

European Commission (2005) *Recommendation on the role of non-executive/supervisory directors and supervisory board committees. Available at http://ec.europa.eu/internal_market/company/docs/independence/2004-05-consultation_en.pdf*

European Commission (2003) *Modernizing company law and enhancing corporate governance in the EU: A plan to move forward (May 2003) and the Modernization Directive (June 2003) 2003/51/EC . Available at http://ec.europa.eu/internal_market/smn/smn32/a17_en.htm*

European Commission (2002) *Comparative Study of Corporate Governance Codes Relevant to the European Union and Its Member States*. *http://ec.europa.eu/old-address-ec.htm*.

Fahlenbrach, R. (2009) Shareholder rights, boards and CEO compensation. *Review of Finance, 13*(1), 81-113

Fama, E. and Jensen, M. (1983) Separation of ownership and control. *Journal of Law and Economics, 26(2), 301-325*

Faleye, O.; Hoitash, R. and Hoitash, U. (2011a) The cost of intense board monitoring. *Journal of Financial Economics,* 101(1),160-181

Faleye, O., Hoitash, R. and Hoitash, U. (2011b) Advisory directors. *SSRN 1866166*.

Feinberg, K. (2011) Compensating company executives under the Troubled Asset Relief Program. *Corporate Governance: An International Review, 19(5), 492-496*

Fernandez, A. I.; Gomez, S. and Fernandez, C. (1998) El papel supervisor del consejo sobre la actuación gerencial: Evidencia para el caso español. *Investigaciones Económicas, 22*, 501-516

Ferranini, G.; Moloney, M. and Ungureanu, M. C. (2009) Understanding directors' pay in Europe: A comparative and empirical analysis. *ECGI Working Paper Series* WP 126/2009

Ferreira, D. (2010) Board diversity. En A.R. H.K., *Corporate Governance .* Willey & Sons.

Fich, E. M. (2005) Are some outside directors better than others? Evidence from directors appointments by Fortune 1000 firms. *Journal of Business, 78 (5)* , 1943-1971

Fich, E.M. and Shivdasani, A. (2006) Are busy boards effective monitors? *Journal of Finance, 61 (2)* , 689-724

Finegold, D. and Benson, G. (2007) Corporate boards and company performance: Review of research in light of recent reforms. *Corporate Boards and Corporate Performance, 15 (5)* , 865-878

Flannery, M.J. and Hankins, K. W. (2013) Estimating dynamic panel models in corporate finance. *Journal of Corporate Finance, 19* , 1-19

Gabaix, X. and Landier, A.. (2008) Why has CEO pay increased so much? *Quarterly Journal of Economics*, 123(1), 49-100

Gillan, S. and Starks, L. (1998) A survey of shareholder activism: Motivation and empirical evidence. *Contemporary Finance Digest, 2(3)*, 10-34

Gilson, S. (1990) Bankrupcy, boards, and blockholders: Evidence on changes in corporate ownership and control when firms default. *Journal of Financial Economics, 27(2)*, 355-387

Giudici, G. and Roosenboom, P. (2002) Pricing initial public offerings in Europe: What has changed? *Working Paper, Erasmus University*

Goergen, M. (2007). What do we know about the different systems of corporate governance? *Journal Of Corporate Law Studies, 8*(1), 1-15

Goergen, M. and Renneboog, L. (2003) Why are the levels of control so different in US and UK companies? *Journal of Law, Economics and Organization, 19*, 141-175

Gomes, A. (2000) Going public without governance: Managerial reputation effects. *Journal of Finance, 55*, 615-646

Gompels, P.; Ishii, J. and Metrick, A. (2010) Exterme governance: An analysis of dual-class firms in the United States. *Review of Financial Studies, 23(3)*, 1051-1088

Gompers, P.; Ishi, J. and Metrick, A. (2003) Corporate governance and equity prices. *The Quarterly Journal of Economics, 118*, 107-155

Grossman, S. and Hart, O. (1986) The costs and benefits of ownership: A theory of vertical and lateral integration". *Journal of Political Economy, 94*(4), 691-719

Guay, R.W. (1999) The sensitivity of CEO wealth to equity risk: An analysis of the magnitude and determinants *Journal of Financial Economics, 53(1)*, 43-71

Guthrie, K.; Sokolowsky, J. and Wan, W-M (2012) CEO compensation and board structure revisited. *Journal of Finance 67(3)* 1149-1168

Hansmann, H. and Kraakman, R. (2001) The end of history for corporate law. *Georgetown Law Journal, 89*, 439-468

Harris, M. and Raviv, A. (2008) A theory of board control and size. *The Review of Financial Studies, 21*(4), 1797-1832

Heckman J. J. (1979) Sample selection bias as a specification error. *Econometrica*, 47, 153-161

Helland, E. and Sykuta, M. (2004) Regulation and the evolution of corporate boards: Monitoring, advising or window dressing? *Journal of Law and Economics, 47*, 167-193

Hermalin, B. E. (2005) Trends in corporate governance. *The Journal of Finance, 60*(5), págs. 2351-2384

Hermalin, B. E. and Weisbach, M. S. (2003) Boards of directors as an endogenously determined institution: A survey of the economic literature. *FRBNY Economic Policy Review, 9(1)*, 7-26

Hermalin, B. E. and Weisbach, M. S. (1991) The effects of board composition and direct incentives on performance. *Financial Management, 20*, 101-112

Hermalin, B. E. and Weisbach, M. S. (1998) Endogenously chosen boards of directors and their monitoring of the CEO. *The American Economic Review, 88*(1), págs. 96-118

Holmstrom, B. (2006) Pay without performance and the managerial power hypothesis. A comment. *SSRN 899096*

Holmstrom, B. (1979) Moral hazard and observability. *Bell Journal of Economics, 10*, 74-91

Holmstrom, B. R. and Kaplan, S. N. (2001) Corporate governance and merger activity in the US: Making sense of the 80s and the 90s. *Journal of Economic Perspectives, 15*(2), 121-144

Homlstrom, B. and Milgrom, P. (1994) The firm as an incentive system. *American Economic Review, 84*(4), 972-991

Holmstrom, B. and Milgrom, P. (1991) Multitask principal-agent analyses: Incentive contracts, assets ownership and job design. *Journal of Law and Economic Organization, 7*, 24-2

Hopt, K. J. and Leyens, P. C. (2005) Board models in europe. Recent developments of internal corporate governace structures in Germany, The United Kingdom, France and Italy. *European Company and Law Review,* 1(2), 135-168

Howe, J. S. and Tamm, C. (2011) Corporate governance of dual class firms. *Advances in Financial Economics, 114*, 1-18

Hung, H. (2011) Directors' roles in corporate social responsibility: A stakeholder perspective. *Journal of Business Ethics, 103(3)*, 385-402

Institutional Shareholders Services (ISS) *Report on the proportionality principle in the European Union*. Available at http://ec.europa.eu/internal_market/company/docs/shareholders/study/final_report_en.pdf

Jackson, G. and Moerke, A. (2005) Continuity and change in corporate governance: Comparing Germany and Japan. *Corporate Governance: An International Review, 13*(3), 351-361

Jackson, J. (2005) Stakeholders under pressure: Corporate governance and labour management in Germany and Japan. *Corporate Governance: An International Review, 13*(3), 419-428

Jensen, M. C. (2003) A theory of the firm. Governance, residual claims and organizational forms. In M. C. Jensen, *A Theory of the Firm. Governance, Residual Claims and Organizational Forms.* Harvard University Press

Jensen, M. C. (1993) The modern industrial revolution, exit and the failure of internal control systems. *Journal of Finance, 48*(3), 831-880

Jensen, M. C. (1986) Agency costs of free cash flow, corporate finance and takeovers. *AER Papers and Proceedings, 76*, págs. 323-329

Jensen, M. C. and Meckling, W. H. (1976) Theory of the firm: Managerial behaviour, agency cost and ownership structure. *Journal of Financial Economics, 3*(4), 305-360

Jin, L. (2002) CEO compensation, diversification, and incentives. *Journal of Financial Economics, 66*, 29-63

John, K. and Senbet, L. (1998) Corporate governance and board effectiveness. *Journal of Banking and Finance, 22*, 371-403

Johnson, S., Boone, P.A. and Friedmann, E. (2000) Corporate Governance in the Asian financial crisis. *Journal of Financial Economics*,58, 141-186

Kaplan, S. and Reishus, D. (1990) Outside directorships and firm performance. *Journal of Financial Economics, 27(2)*, 389-410

Klein, A. (1998). Firm performance and board commitee structure. *Journal of Law and Economics, 41*, 137-165

Kumar, P. and Sivaramakrishnan, K. (2008) Who monitors the monitor? The effect of board independence on executive compensation and firm value. *The Review of Financial Studies, 21*(3), 1371-1401

La Porta, R.; Lopez de Silanes, F.; Shleifer, A. and Vishny, R. (2002) Investor Protection and Corporate Valuation. *Journal of Finance, 62(3)*, 1147-1170

La Porta, R.; Lopez de Silanes, F.; Shleifer, A. and Vishny, R. (2000) Investor protection and corporate governance. *Journal of Financial Economics, 58*, 3-27

La Porta, R.; Lopez de Silanes, F.; Shleifer, A. and Vishny, R. (1998) Law and Finance. *Journal of Political Economy, 106*, 1113-1155

La Porta, R.; Lopez de Silanes, F.; Shleifer, A. and Vishny, R. (1997) Legal determinants of external finance. *Journal of Finance, 52(3)*, 1131-1150

La Porta, R. and Lopez de Silanes, F. (1999) Corporate ownership around the world. *Journal of Finance, 54(2)*, 471-517

Lasfer, M. (2006) The interrelationship between managerial ownership and board structure. *Journal of Business Finance and Accounting, 33*, 1006-1033

Lehn, K.; Patro, S. and Zhao, M. (2009) Determinants of the size and composition of US corporate board: 1935-2000. *Financial Management, 38 (4)*, 747-780

Levran, A. and Berghe, L. (2004) Evaluating board of directors: What constitutes a good corporate board? *Corporate Governance, 12 (4)* , 461-478

Li, K. and Prabhala, N. (2007) Self-selection models in corporate finance. In *Handbook of Corporate Finance .* Espen Eckbo.

Link, J.; Netter, J. and Yang, T. (2008) The determinants of board structure. *Journal of Financial Economics, 87*, 208-328

Lipton, M. and Lorsch, J. W. (1992) A modest proposal for improved corporate governance. *Business Lawyer, 48*(1), 59-77

Ljungqvist, A. and Wilhelm, W. (2003) IPO pricing in the dot-com bubble. *Journal of Finance, 58*, 723-752

Loderer, C. and Peyer, U. (2002) Board overlap, seat accumulation and share prices. *European Financial Management, 8(2)*, 165-192

Lombardo, G. and Pagano, M. (2002) Law and equity markets: A simple model. In McCahery,J.; Moerland, P; Raaijmakers,T.; Rennenboog, L. (Eds) *Corporate Governance Regimes: Convergence and Diversity*, Oxford University Press, Oxford 343-362

Markarian, G. and Parbonetti, A. (2007) Firm complexity and board of director composition. *Corporate Governance: An International Review, 15*, 1224-1241

Maslu, V. (2010) Executive directors, pay disclosures, and incentive compensation in large european companies. *Journal of Accounting, Auditing and Finance, 25*, 569-605

Mehran, H. (1995) Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics, 38*, 163-184

Mellis, A. (2006) Corporate governance developments in Italy. In *Handbook of International Corporate Governance.* C Mallin, Elgar, Cheltenham

Murphy, K.J. and Zabojnik, J. (2004) CEO pay and appointments: A market based explanation for recent trends. *AEA Papers and Proceedings, 94 (2)*, 192-196

Murphy, K.J. and Zabojnik, J. (2007) Managerial capital and the market for CEOs. *nimeo*

Nagel, G. (2005) Authomatic ratcheting of CEO pay. *Ph.D. Dissertation, Florida State University*

Neumann, R. (2003) Price differentials between dual-class stocks: Voting premium or liquidation discount?. *European Financial Management, 9(3), 315-332*

Nicodano, G. (1998) Corporate groups, dual-class shares and the value of voting rights. *Journal of Banking and Finance*, 22(9), 1117-1137

Non, M. and Franses, P.H. (2007) Interlocking boards and firm performance: Evidence for a new panel database. *Tinbergen Institute Discussion Paper, TI2007/034/2*

Ntim, C. G.; Opong, K. K. and Danbolt, J. (2012) The relative value relevance of shareholder versus stakeholder corporate governance disclosure policy reforms in South Africa. *Corporate Governance: An International Review, 20*, 84-105

OECD (2004) Principles of Corporate Governance. Available at http://www.oecd.org/daf/corporateaffairs/corporategovernanceprinciples/31557724.pdf

Ozertuk, S. (2005) Board independence and CEO pay. *Economic Letters,* 88, 260-265

Pajuste, A. (2005) Determinants and consequences of the unification of dual-class shares. *European Central Bank Working Paper Series, No. 465 March 2005*

Palia, D. (2001) The endogeneity of managerial compensation in firm valuation: A solution. *The Review of Financial Studies, 14*(3), 735-764

Perry, T. and Shivdasani, A. (2005) Do boards affect performance? Evidence from corporate restructuring. *Journal of Business, 78 (4)* , 1403-1431

Pierce , C. (2010) *Corporate Governance in the European Union.* Kent, UK: Global Governance Services Ltd.

Prendergast, C. (2002) The tenous trade-off between risk and incentives. *Journal of Political Economics,110(5),1071-1102*

Prinz, E. (2006) Corporat governance and the uncertain role of interlocking directorates- director networks in Germany and their impact on financial performance. *LEG/FARGO Working Paper 1061001*

Raheja, C. (2005) Determinants of board size and composition: A theory of corporate boards. *Journal of Financial and Quantitative Analysis, 40*, 283-306

Reeb, D. and Upadhyay, U. (2010) Subordinate board structures. *Journal of Corporate Finance, 16*, 469-486

Ritter, J. R. (2003) Differences between European and American IPO Markets. *Journal of Management, 9*(4), 421-434

Roe, M. J. (2003) *Political Determinants of Corporate Governance.* Oxford University Press

Ryan, H. and Wiggings, R. (2004) Who is in whose pockets? Director compensation, board independence and barriers to effective monitoring. *Journal of Financial Economics, 73*, 497-524

Sala Fumas, V. (2002) *El Gobierno de la Empresa*. Colección de Estudios Económicos, nr. 29. Servicio de Estudios "La Caixa".

Sheu, H. J.; Chung, H. and Liu, C. L. (2010) Comprehensive disclosure of compensation and firm value: The case of policy reforms in an emerging market. *Journal of Business Finance and Accounting, 37*, 1115-1144

Shivdasani, A. and Yermack, D. (1999) CEO involvement in the selection of new board members: An empirical analysis. *Journal of Finance, 54*, 1829-1853

Shleifer, A. and Vishny, R. (1997) A survey of corporate governance. *Journal of Finance*, 52(2), 737-783

Shleifer, A. and Wolfenzon, D. (2002) Investor protection and equity markets. *Journal of Financial Economics, 66*, 3-27

Smith, A. (1776) *An Inquiry into the Nature and Causes of Wealth of Nations.* Indianapolis: IN: Liberty Press

Song, F. and Takor, A. (2006) Information control, career concerns and corporate governance. *Journal of Finance, 61(4)*, 1845-1896

Slutz, R. (2005) The limits of financial globalization. *Journal of Finance, 60*, 1595-1638

Tirole, J. (2001) Corporate governance. *Econometrica, 69*(1), 1-35

Vafeas, N. (1999) Board meeting frecuency and board performance. *Journal of Financial Economics, 53*, 113-142

Volker, L. (2012) Stock option vesting conditions, CEO turnover, and myopic investment. *Journal of Financial Economics, 106(3), 513-526*

Wintoki, M. B., Linck, J. S. and Netter, J. N. (2012) Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics 105(3), 581-606*

Wuang, C.-J. (2004) *CEO compensation, leverage, and corporate board of directors, and their joint impact on performance.* Graduate School Newark Rutgers, the State University of New Jersey, PhD. Dissertation

Yermack, D. (1996) Higher market valuation of companies with a small board of directors. *Journal of Financial Economics, 40*, 185-211

Zehn, X. and Cullinan C. (2010) Compensation/audit committee overlap and the design of compensation systems. *International Journal of Disclosure and Governance*, 7, 136-152

Zingales, L. (1998) Corporate governance. In *The New Palgrave Dictionary of Economics and Law.* Stockton Press, New York